The Hygiene of the Skin

J. L. MILTON.

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HYGIENE OF THE SKIN

BY

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Fourth Edition

London
CHATTO AND WINDUS, PICCADILLY
1890

HARRISON AND SONS,
PRINTERS IN ORDINARY TO HER MAJESTY,
ST. MARTIN'S LANE.

PREFACE.

THE object of this work is to offer a set of rules for preserving the skin in a high state of health, and assisting the restoration of it to a proper standard, when the reader is under treatment for disease affecting this part of the frame. Inquiry is constantly made by patients for a text-book, to which they can refer when in doubt about some point connected with diet, baths, soaps, exercise and so on, and this want, it is anticipated, has now been met. The author even entertains the hope that the work may not be unacceptable to the medical profession, many members of which are more sceptical as to the value of all rules of the kind than the case really warrants; a piece of scepticism which is the effect, not of prejudice or ignorance, but of disappointed experience; a very natural, but not very satisfactory result of the way in which the subject has been overdone with traditions and theories, with minutiæ too fine for practical life, and rules too onerous to be generally followed.

The work being based almost solely on experience, the writings of other authors are only referred to when it seemed indispensable to do so, and notes of every kind have been designedly omitted.

If a very large sale may be taken as evidence that such a book was much needed, then there is conclusive testimony on this head. I have good reason to believe, that it has sold not only faster, but a great deal faster, than any other work of the kind ever yet did. That the experience, on which the work is based, harmonizes on the whole fairly well with that of the class most interested in the subject, the patients themselves, may be inferred from the fact that more than four hundred persons, strangers to me, but suffering from skin disease, have at one time or other written to say how closely what was recommended in the work tallied with their observation of the effects of diet, baths and exercise in their own cases.

As regards the propriety of issuing a book of a popular nature on such a subject, I do not consider that it requires any farther apology than to cite such examples as those of Lardner, Carpenter, Owen, Liebig and many other famous men, who have justly held, that the dignity of science is in no way impaired by its being made intelligible to the general public.

12, *Suffolk Street, Pall Mall, and*
Sion House, King's Road, S.W.,
1890.

CHAPTER I.

Structure and Functions of the Skin.

Amount of fluid thrown off daily by the Skin.—Carbonic Acid as an Element in the Excretions of the Skin.—Weighing an Excretion.—Minor Elements of Excretion.—Question of Sulphur and volatile principle of Assafœtida, &c., passing off by the Skin.—Odorous principle of Human Beings.—Functions of the Epidermis.—Effects of a Breach of Continuity.—Heat and Cold.—Skin and Temperament.

EVERY layman of ordinary intelligence has a more or less definite idea that the skin is a great excreting organ, that disturbance of its functions re-acts on the vital organs, while disease of these parts is again reflected in the hue and look of the skin; and that the countless pores of the skin stand open night and day not only to let in the germs of disease floating to and fro in the air, but to let off the waste fluids of the body. There is a good deal of truth in these opinions, but it is mixed up with a good deal of error; in particular the inferences naturally flowing from the two last facts, that cleanliness exposes the body to disease, and that the human frame is periodically inundated in supplying the daily wants of life, the inundation being carried off by the flood-gates of the

skin, unless these are closed by disease or imprudence, have been the source of the most erroneous views, often enough by no means harmless.

The human skin is an extremely composite organ, which might almost be compared to a piece of elaborate tapestry, the threads of it being however harder to trace and isolate than those of any product worked by human hands; consequently anatomists have had great difficulty in satisfying themselves as to the exact structure of certain of its components, which some of them have described very differently from others. The following summary will perhaps fairly represent the most trustworthy views on the subject.

The skin then, consists of the derma, or true skin, and the epidermis, or scarf-skin; the first being an organized growth, the other a secretion of more or less active cells. The derma may be compared to a network, varying in thickness from a ninety-sixth to an eighth of an inch. Examined by itself it is always of a pale, or dull white tinge, its varying degrees of redness being due to the different amount of blood contained at times in the vessels which traverse its substance. This network consists, on the inner side or that nearest to the fat and muscles, of extremely fine meshes, whence it derives its name of reticular; on the outer surface it is much finer and more compact. It is here raised up into minute and fine, but yet flexible, cones or papillæ, varying in height from the hundred and twentieth to little more than the thousandth part of an inch; so minute are these papillæ that as many as eighty will stand on a square line on some parts of the hand and,

according to Meissner, four hundred on the same sized portion of the tip of the finger. From the presence of these little conical bodies, the outer surface of the derma is often named the papillary layer; it is also known as the limitary membrane, from its being the boundary beyond which the nerves, lymphatics, and blood vessels were long supposed not to pass, a view now looked upon as incorrect as regards the two first structures; and basement membrane, from the scarf-skin resting upon it as a basis. In some parts the derma rests loosely upon what is called cellular tissue lying below it; in others it is firmly tethered, by means of what is known as connective tissue, to dense membranes lying below it, called fasciæ. The inner surface rests upon a layer of cellular tissue and fat, and blends so gradually with the former that a strict separation of the two is almost, if not quite, impracticable.

The derma consists essentially of fibrous tissues, muscle, nerve, blood-vessels, and lymphatics. There are some other bodies which will be noticed farther on. The principal constituents are arranged as follows:—The network spoken of, the warp and woof of the skin, if I may so express myself, is principally made up of a tissue of white fibres, very dense in its nature, mixed up and interlaced with yellow fibres, considered to be elastic and always fewer in number than the white. The presence of the latter appears to be the chief source of the extraordinary denseness and toughness of the skin. In forming the network, the fibres—speaking here essentially of the white—do not cross each other at right angles as do the warp and woof of a carpet, but obliquely, leaving in all

the lower surface spaces through which the vessels and nerves pass, and forming, as they approach the surface, a more and more compact mesh till they end in the papillæ, the structure of which might be almost spoken of as homogeneous. Here, however, it would seem that the elastic fibres predominate. What greatly increases the closeness of the outer surface is, that the fibres themselves divide and subdivide as they get nearer to it. In the meshes of this network we find globules of fatty matter, and corpuscles known as those of the connective tissue, spindle-shaped or with long processes shooting out from their ends, or round, of which there are two sizes. These cells are considered by one author to be worn-out fat cells; a view rejected by a late and very accurate observer, who, as I understand him, considers that the existence of separate cells is a mere myth, and that all such appearances are to be referred back to those important bodies known as wandering cells.

The papillæ of the outer surface, which, on looking at an anatomical plate of them might almost be compared to excessively minute bulbous roots of plants arranged in parallel strings, really do stand so accurately in rows, that in a microscopical preparation a straight line will separate one series from another; in their natural state, however, they do not run strictly parallel with the long axis of the part, but may be curved as in the bulbs of the fingers, while they are oblique on the palm of the hand, and transverse at the wrist. One partitioning line also will sometimes diverge obliquely into another. They are crossed by transverse lines, which are slightly tortuous. The two sets of lines are at much the same distance from each other, the

effect of which is to divide the superficies into a series of irregular squares, and to cut each longitudinal line by so many notches; in the middle of every intersecting or transverse line stands the opening of a sweat duct. The papillæ are always spoken of as conical, but late investigations represent them as tapering, sometimes curved, pointed growths, often a little larger higher up than at the root, emerging somewhat abruptly from a semi-globular body. Occasionally the cone is divided (compound papillæ) and then, if seen in side elevation, it looks not unlike two or three fingers of a glove, standing up and spread more or less out. On the palm of the hand, sole of the foot and nipple, the compound papillæ predominate. The internal structure of the papillæ can only be understood after the remaining component parts of the derma have been passed in review.

The muscular tissue mentioned consists almost entirely, except in the skin of the face, of what is known as plain or unstriped, in contradistinction to the striped fibres of the voluntary muscles; the tissue in the skin belonging to the class over which the will has no control. It is distributed in bundles. At the inner surface, where the meshes formed by the fibrous tissues are so much looser, the muscular tissue is separated from the true skin by means of cellular tissue, but as we approach the outer surface, where the fibres are so much more closely interlocked, it becomes more blended with the corium, or at any rate is more in contact with it. Fibres pass, from the most superficial part of the true skin, down the hair follicle to be inserted on its outer side. The function of these muscular fibres is considered to be that of elevating the hairs, especially as they are placed on the side

towards which the hair slopes; but also they possibly serve to expel the contents of the sebaceous follicles to be afterwards described.

The blood vessels consist, first, of arteries. These are of very minute size when they enter the skin from below, and become much smaller as they pass upwards. When they have attained their highest elevation and smallest size, they become changed into veins, which pass out by the openings in the meshes through which the arteries entered, and thus form the second constituent part of the blood vessels. For the convenience of description both may be spoken of as taking the same route. When, then, these blood vessels enter the skin, they supply minute webs called plexuses to the little clusters of fat, sweat glands and hair follicles. Having, as has been stated, entered the skin at its lower surface by the openings in the meshes, and grown perpetually finer, by constant subdivision in their progress towards the upper surface, the arteries, before they pass into veins curve and form arches; they are then transformed into very minute, hair-like (capillary) vessels, the transition of which into veins is almost imperceptible. These capillaries spread out in a mesh, the spaces in which are many cornered and roundish. The vessels are of extreme minuteness, not exceeding in diameter the eleven hundred and forty-ninth part of an inch; yet, according to the measurements of Müller and Weber, they are nearly double the size of those to be found in any other part of the body, thus explaining the great comparative suddenness with which the skin reddens under the influence of excitement; while sudden congestion of this nature in an internal organ, or a delicate

structure like the eye, might be attended with serious disturbance. Biesiadecki considers that there is, in the fat clusters, a network of vessels between the arterial and venous trunklets, which seem to be even finer than capillaries. A papilla generally consists of a very minute artery and vein, looped at the summit in the way just described. They are accompanied, according to Biesiadecki, by some fibres of connective tissue, known as the vertical fibres of the corium, which enter the papilla, perhaps acting as stays to the vessels, and probably end by free extremities. Beneath the surface of the derma we find a series of vessels apparently destined to carry off a certain amount of waste material; their functions, however, have not yet been strictly determined. They are called the lymphatics, or absorbents, and form meshes, there being no radicles or feeders from which they might rise, as a river does from its springs. The walls of these vessels consist entirely of cells, flattened, bent, and stretched out towards each other, and joined at last by serrated edges, so as to form branched tubes. Fine prolongations of them are now considered by some microscopists to reach the scarf-skin.

The nerves, which supply the skin with sensation and perception, enter, like the arteries, by openings in the meshes and like them divide into finer and finer branches as they approach nearer and nearer to the surface. In contradistinction, however, to the blood vessels, they have, according to some observers, been traced into the lower layers of the scarf-skin, when they are described as ending in slightly bulbed free extremities, or in a plexus of very minute fibrils; Unna even going so far as to maintain that

each prickle cell is accompanied by two excessively fine twigs, which spread over its sides without encroaching on each other. In the true skin they terminate in two different ways. Those going to the red border, or coral, of the lips, may be selected as exemplifying one mode; they expand into somewhat bulbous extremities. Those entering the skin papillæ exhibit the other. They generally develop into a mesh; in some cases this occupies the whole papilla, and then it might perhaps be better described as looking like a sheet of the finest imaginable tissue of waved fibres, rolled up over an axis, formed by a fold of its free edge, into a kind of cocoon. In other cases the very reverse is noticed, there being no nerve sent to the papilla of which there are thus three kinds; the purely nervous, also called tactile, those without nerves, distinguished as vascular, and the mixed which contain both blood vessels and nerves. On the tip of the finger rather more than one papilla out of four contains a tactile, or touch, body of nerve matter. A nervous and a blood papilla may spring from the same stem. The tactile papillæ are principally found in the palm of the hand and the sole of the foot; more sparingly in the backs of these parts; also, according to one author, on the palmar surface of the forearm, and on the nipple. Nervous twigs also enter the hair follicles but their distribution is obscure. Here and there minute egg-shaped solid bodies, called pacinian corpuscles, are found attached by stalks to the nerves of the skin.

On the outer side of the true skin lies an extremely fine membrane, the epidermis, cuticle, or scarf-skin, never more than a line, sometimes not more than the twentieth part of a

line, in thickness. As is well known, it is much thicker and firmer on the palm of the hand and sole of the foot than elsewhere, and an impression prevails that this is due to work, handling things, walking, and so on; but it is in a great degree natural, and difference of thickness is observed even in fœtal life. It is composed of cells, and for convenience sake its two surfaces are spoken of as if they were anatomically distinct; the inner side being named the mucous layer, the outer being known as the horny. The cells composing the inner or moist surface, a structure which plays a most important part in some serious diseases of the skin, are of a soft, granular protoplasmic nature, and are soluble in acetic acid, which does not act upon the outer layer; they contain little bodies, really kernels, called nuclei, and the cells themselves are arranged as follows:—Those in contact with the papilla form a sheath for it usually one cell thick but may be more, and the cells are everywhere at right angles to the papilla, just as we may see the dog-tooth moulding run up the sides and over the arch of a doorway, substituting for the points of the teeth flat-ended cells, and for the doorway itself a solid cone. Over this is a layer of cells which display tooth-like processes or prickles, sometimes for this reason called prickle cells. Such an arrangement necessarily leaves spaces between the sheaths of the papillæ, and these are packed with spheroidal nucleated cells, layer upon layer, till we reach the tips of the papillæ, over which they lie in one thin unbroken stratum, stretching all over, covering alike the summits of the cones and the intervals between them. Shown in section, these cells much

resemble ridges of the semicircular edged tiles often used now on Gothic roofs. These two sets of cells are not regarded as even anatomically distinct, and taken together they constitute the mucous, or malpighian, layer as it is sometimes called. It is the varied colour of this layer which gives to the different races of men, the black man and the red, the white man and the yellow, their varying colour of the skin. Over it lies the horny layer of the epidermis, several times thicker than the mucous, also composed of cells, the nuclei of which have disappeared. These cells have become flat, many-angled, wrinkled, horn-like plates. Careful blistering and maceration, aided by skilful manipulation, will enable the anatomist to separate for a small distance these two layers, and some writers have accordingly spoken of them as distinct, but there seems no ground for such an arrangement, which is embarrassing to the uninitiated without assisting the clearness of anatomical descriptions.

The scarf-skin consists principally of a substance peculiar to epithelial and horny tissues, known as keratin, insoluble in water at ordinary temperatures and alcohol, but soluble in caustic alkaline fluids such as those containing soda and potass. This body is analogous to what are called the albuminoids, but contains, besides sulphur, a somewhat larger proportion of oxygen. Besides these, fats, certain salts and traces of oxide of iron and manganese are found. It has been supposed that the whole epithelium starts from a few embryonic cells in fœtal life, that each of these begets several other cells, and every cell so begotten a fresh progeny, the spheroidal however issuing from the perpendicular, so that the cells of old age are really derived in

unbroken descent from the first rudiments of the existence of epithelium; but the phenomena observed on the healing up of surfaces, where a large piece of skin has been lost by ulceration or burning, militate against the supposition that such is always the case. Little blood bodies, called leucocytes, are sometimes found among the cells of the malpighian layer. The corium (true skin), on the contrary, consists in great part of gelatine, which adapts it for tanning.

But even the most minute and accurate description of the skin, without the aid of the microscope, must convey a very imperfect idea of its structure. The lithographs in some anatomical works are misleading, for though perhaps substantially true likenesses, they are yet often indebted to the imagination of the artist for their distinctness, strictly accurate pictures of the component parts being almost, if not quite, impracticable by reason of their interwoven state. In order to thoroughly understand the anatomy of the skin, the microscope must be employed, and by a practised hand and eye. To attempt an account of the hair, particularly of its development, without drawings at least, is attempting an impossibility, and I must confine myself to saying that a hair consists of a shaft, sometimes with a central pith; that it issues from a little pit, called a follicle, which has a double lining; that at the bottom of the follicle, the root of the hair is closely in contact with a peculiar semi-bulbous papilla, and that in the fœtus the rudiments of the hair seem formed from down-growths of the mucous layer. The use, too, of such phrases as membrane and layer, is calculated to raise erroneous ideas. The two so-called layers of the

scarf-skin can, indeed, be artificially separated from each other, but in a state of nature they are inextricably connected, and those of the true skin are still more closely united. Perhaps this brief account will enable the reader to appraise, at its just value, the truth of the report about a late distinguished personage having one skin too few, such a state being simply inconceivable. The scarf-skin is so necessary to the true skin, and the entire membrane so necessary to the structures which lie below it, that life could not go on for twelve hours in the absence of either of them, and there is no other skin.

This wonderful covering, without which man would be a hideous spectre, incapable of communicating with the external world, is pierced in almost innumerable places for the passage of the sweat ducts. These lead from the sweat glands, small, roundish, yellow bodies seated on the under surface of the true skin and on the fat lying underneath, and open on the outer surface of the scarf-skin. The duct is a very fine elastic tube, which thus pierces both skins and opens by an orifice slightly wider than the tube itself; at its lower end it is rolled up as a fine thread might be. Slender as the sweat duct is, it yet possesses three coatings, an investment of connective tissue, a proper membrane, and an epithelial lining of cells. Some of the larger sweat ducts, *e.g.*, those in the arm-pits, where they are found in great numbers, have a layer of plain muscular fibre cells between the two last coats. These larger ducts arise, too, from larger glands of more complicated structure than the others, and with semi-fluid contents. Though I have spoken of them as almost innumerable, their numbers could be ascertained by

a rough computation; thus we can, with the aid of a plaster cast, find how many there are on a square inch of the skin, and the entire superficies of the skin could, of course, be measured in an individual case, supposing it were worth the trouble to do so. One author, taking as his starting point two separate square inches on different parts of the skin, computes the number of these tiny aqueducts at seven millions; but inasmuch as the proportion of pores to a given surface varies in every part of the body, and as the same amount of surface would not be found twice in fifty people, it must be obvious that any such resultant might just as easily as not be wrong by some millions. Their great numerical extent can for all reasonable purposes be inferred from the statement that, according to one author there are upwards of 3,500 of them, but, according to a much more accurate writer, Krause, 2,800 in a square inch on the palm of the hand, where they are very densely set, and as many as 400 to 600 in the same amount of surface on the back and lower limbs, where they are most sparsely distributed. Beyond this, all attempts at calculation must be sheer waste of time, seeing that an average cannot be struck with even an approach to accuracy. These numerous tubes carry off both the visible perspiration, or sweat, and the invisible, called transpiration—a sort of perpetual but unseen and unheard breathing from the skin, which, though unnoticed, rids the system of a bulk of poisonous fluid, ranging from a pound and a quarter to three pounds and a half in the twenty-four hours, an average being 8·8 grains per minute, equal to a little over two pounds daily, or more than half as much again as passes off by the lungs. This

excretion is so contaminated with carbonic acid gas, that when a burning candle is introduced into the air of a vessel in which the hand or foot has been confined for an hour, the flame begins to burn dim, and Jurine found that air, kept for a time in contact with the skin, consisted almost exclusively of carbonic acid. M. Edwards considers that part of the water is carried off from the skin by mere physical evaporation, the same as would take place from a dead body, and that when the temperature of the air is not above 68 deg. Fahrenheit, the vital transpiration does not expel more than an eighth of the whole amount.

Embedded in the lower part of the true skin we find little glands which secrete a suety fluid, known as sebum or sebaceous fluid, from the latin name for suet. These glands, especially numerous in the scalp, are groups of minute rounded bags, or sacculi, and, except in a few parts of the skin of no great extent, they all open into the sheaths of the hairs, by means of which they find their way to the surface, the largest of the glands sometimes emptying where the hairs are very small. The following is the constitution of this fluid :—In round numbers one-fourth is made up of fat, and one-fifth of phosphate of lime, a salt which enters largely into the composition of bones and the scurf of the horse's skin. The rest consists of what is called ozmazone, with traces of oil, watery extract, albumen (a substance analogous to white of egg), casein, and carbonate of lime. Traces of acetate of soda and chloride of sodium (common salt) are also found. In the midst of all this, the microscopist often observes, living apparently quite at its ease, a very minute eight-legged animal called the acarus, or

steatozoon, of the follicles, from the hundred and thirtieth to the eightieth of an inch in length, and about the five hundredth of an inch broad.

The reader may be interested to know how such a question, as the amount of fluid poured out by well-nigh countless tubes scattered over a large and unequal area like that presented by the human frame, can be determined with accuracy, and a short narrative of the method employed will help to show the vast amount of labour and self-denial which have been directed to the investigation of physiology. The process was as follows:—A famous philosopher in his day, Seguin, shut himself up in a bag of gummed silk, tied above his head, and having an opening only for his mouth, provided with a copper mouthpiece. The edges of this opening were hermetically fixed round the mouth with a mixture of turpentine and pitch. He was then weighed in a very fine balance, and at the end of a certain time weighed again. All loss, except that from the lungs by the mouth, being thus prevented, it became possible to ascertain by this means how much the lungs threw off per hour. He was then weighed without the bag, and, after the expiration of a fixed period, the entire loss per hour was ascertained by another weighing. Subtracting the quantity given by the first experiment from that yielded by the second, the balance would represent the loss by the skin, and this observation was farther corrected by weighing all the other excretions together against the amount of food and drink.

Notice has probably been taken of the statement that a sort of breathing goes on from the skin, and it is considered

by some writers that this process maintains heat, and is, therefore, supplementary to the respiration carried on by the lungs; a supposition which they think is borne out by the fact that in many of the lower animals, the mingling of the oxygen of the atmosphere with their blood, which is so essential to life, is in a great measure effected through the skin. Animals, whose skins have been varnished over, have died rapidly and with blood imperfectly reddened. It has also been taught that perspiration reduces morbid heat of the skin, as when it occurs in fever; also that it enables men to support the excessively high temperature to which Blagden, Fordyce, and some observers have exposed themselves in their experiments.

The latter opinion seems to some extent based on a misconception. Perspiration in a feverish state ensues because the fever itself is lessened. As to the experiments of Blagden, it may be remarked that the exhaled fluid cannot act the only part in which it is likely to be useful, that of a non-conductor, and the heat, so far as it reaches the skin, must equally reach it whether in a perspiring state or not. But the fact is that the surface, in these trials, is in a great measure protected against the action of heat by thick non-conducting materials, and what is resisted seems to be non-effective by reason of the vital power; for the dead body is affected by heat just as a like mass of inorganic matter would be, and the exudation of fluid from its surface, when exposed to heat, would not prevent such a rise of the temperature as must soon prove fatal to life. The explanation of the relief afforded by perspiration I believe to be that given in the "Laws of Life" with reference to many facts

of the kind ; but, first of all, it will be necessary to observe that such a heat as was employed in most of the experiments would make anyone perspire, and the results afforded by it may, therefore, be eliminated. The misleading part of the theory appears to be drawn from observation of the action of more moderate degrees of heat in morbid states, and the solution is very probably as follows :—A dry skin is preternaturally active already in virtue of its disordered state, and, in consequence, is already attracting an undue share of the vital power. When this is augmented even in a slight degree by the heat of summer, such persons often complain of a distressing sense of distension, as if the skin must burst. A perspiring skin, being in a less abnormal state, is not so strongly affected by a cause of equal potency.

The excreted fluid thrown off by transpiration, in addition to the carbon which, in a state of oxidation, yields the deadly carbonic acid, contains other ingredients, the regular expulsion of which from the frame we must suppose to be intended, though it is difficult to see the necessity for their extrusion, at least of some of them, as they could scarcely do any mischief however long they might be retained ; indeed, as has been remarked by a great physiologist, the purpose of cutaneous exhalation is not elucidated by its analysis. These are chloride of sodium (or common salt), oxide of iron, acetic acid, ammonia, occasionally nitrogen, most abundant according to one observer after full meat diet, butyric acid, and an animal matter more nearly resembling gelatine than anything else. Other less constantly recognized ingredients are carbonate, sulphate, and phosphate of soda, and phosphate of lime.

According to some authors the skin is such an active agent in removing foreign and effete matters from the system, that sulphur and the odorous principle of assafœtida, musk, garlic, peas, and fatty foods—*e.g.*, those so extensively consumed in cold countries like Greenland, are evolved by its agency, or, in common phrase, pass through the pores of the skin, there being, it must be remembered, no pores except the openings of the sweat ducts and sebaceous follicles. I have endeavoured to verify the fact in all except the fatty foods, but have failed. Infusion of sulphur, taken into the stomach, seems to act upon the skin, but to a very slight extent, and in some very exceptional cases; I have not been able to satisfy myself that it could be detected, and in a case where sulphur had been taken for six weeks, the patient, a firm believer previously in its elimination, could not discover it by a chemical test. My own observations, however, with respect to musk, are of a very limited nature. In the absence of decisive experiments, the accounts of such things having ever happened at all, must, though repeated in modern medical works of a certain degree of reputation, be received with great caution. Self-deception in such matters is very easy, and the stories themselves mostly rest on tradition dating from times when faith was strong and critical analysis not much in vogue; lastly, they are mixed up with a good deal that is clearly fabulous. Some people seem to think that the human frame is more spongy and bibulous than if it were made of blotting paper, and that it will take up anything applied to it, wet or dry, or into which it is plunged; a delusion which has marvellously fostered a very fair amount of barefaced quackery.

A good deal of evidence exists to show that every human being exhales, along with the excretions of the skin, a smell peculiar to himself, and which, it has been said, enables the dog to track his master hours after he has passed along a road, a fact no way incredible when we remember that each individual has a particular set of features and figure, a particular voice and walk, in which no other person ever exactly resembled him. Perhaps the anecdotes on which this belief is founded are a little over-coloured; but be that as it may, I fancy there can be little doubt that the dog in some degree detects the individual by the smell, and in this case the balance of testimony must be held to be decidedly in favour of the opinion that the odour is quite independent of the sweat, as the dog is guided by it when there can be no question of perspiration, though it is undoubtely more marked when the skin is excited to activity. From the experiments of a bygone age, we learn that the vehicle of the scent itself, from which it is, perhaps, inseparable, can be collected in dark coloured tears, looking almost like drops of tar, but so charged with grease as to render paper transparent.

The function of the epidermis seems to be that of so regulating all the impressions of contact made upon the frame by the external world, that in the natural state of man, not exposed to any particular violence, the sensation thus conveyed shall, without producing a painful effect, inform the mind of certain qualities of matter not to be learned in any other way, and, in some cases, of the electrical state of the air, and so on, and modify the action of heat, cold, and irritants generally.

The influence it exerts in this way is, I submit, shown by what we sometimes see in diseases of the skin. I speak, however, rather guardedly on the point, because I am not aware that there are any observations except my own, and I do not consider them sufficient to be decisive; but this much can be said. Patients labouring under eczema, when a portion of the skin has lost its epidermal covering, often complain bitterly of the cold, even though otherwise rather indifferent to it, and say that it seems to get through the abraded part and enter their very bones. Excessive heat they do not seem to feel so much in this way, as is natural, for the temperature of the blood being on an average 96 to 100 deg. Fahrenheit, there is a much slighter transition to even great summer heat, say 120 deg. in the sun, than to one below freezing point—*e.g.*, 20 deg. Of course the argument applies exclusively to cases where the vital power of accommodation is upset. In that malignant and awful disease, true leprosy, a similar statement is often made about cold, and the leper feels oppressed by the summer heat even when the temperature is not very high. In lepra, too, often spoken of as the white leprosy, although there is not the least affinity between it and the disease to which the name is properly given, and as the leprosy of Naaman, which was almost certainly nothing of the kind, the sensibility to heat and cold is sometimes greatly augmented, as it also is to light, a fact which we find repeated in small pox. It is not improbable, too, that something extremely similar occurs in those cases where a patient, suffering under scarlet fever or measles, is exposed to cold and the eruption recedes, or, in popular phraseology,

is driven in; the explanation, I believe, being that when the skin and mucous membrane of the mouth and throat are in a certain peculiar state of hyper-action, they are much more easily acted on by cold, or a poisonous air like that of an east wind, and the lungs thus more quickly reached; that inflammation of these organs is thus set up, and that it is this disturbance of the internal structures which causes the eruption to fade.

Physiologists have divided human temperaments into the sanguine, choleric, phlegmatic, and melancholic. Although the system was based on the exploded hypothesis of the four cardinal humours, the skin played an indispensable and now by no means obsolete part; for this creation of antique genius, moulded into great precision of form by successive touches, has strongly impressed itself upon pathology. Yet it is a mere abstract conception, incapable of being applied to the practical treatment of disease, especially of the skin. It might have a conjectural value if we really could separate men into varieties, as we can distinguish the white man from the black, and the Mongol from the red Indian; but the truth is that we cannot do anything of the kind. Not one person in twenty presents the characters of any temperament with such distinctness as to constitute a specimen of pure type; extreme forms are no doubt met with, but it is not, and probably never was, possible to parcel out a motley race like the English into cut-and-dried varieties. And when we have secured an adequate number of typical specimens for observation, we do not find them, as has been so often asserted, presenting typical disposition to particular diseases, or specially affected by certain remedies.

I consider the observations made at St. John's Hospital decisive on this point as regards diseases of the skin. Out of more than 18,000 cases of these affections in my own department, all those presenting strong constitutional tendency to certain skin diseases were more or less rigorously scrutinized, with the result of finding that in no form of these did any form of temperament predominate to the exclusion of others. The question, indeed, as to what is the soundest state of the skin, that state which most contributes to, and in its turn indicates, high health, does not hinge upon whether the individual is of sanguine or atrabilious temperament, of ruddy or pallid complexion; but whether the skin executes its functions properly, the layer of it yielding colour being, perhaps, the least important of any. It may, therefore, console a person whose temperament would be considered indifferent, and whose complexion would be spoken of as bad, to know that he may by nursing keep his skin in good order, and that even a very indifferent colour is not always unfavourable to health and longevity.

Rather more than fifteen years ago, I was consulted about a patient suffering, for the first time in his life from a very troublesome skin disease—eczema; he had just entered upon his eighty-second year. He was speedily and completely cured of the skin affection, and died, apparently without any suffering or having any disease, a few days before he had completed the eighty-seventh year of life. Yet this man was, when quite young, pallid and sallow to a degree, and, as he grew up, had about as bad a complexion as any person could well have, the skin of the

face being something of the hue and texture of a nutmeg, with a livid greenish tint on the cheeks not easy to describe, but which attracted every person's notice. An extremely temperate life and strict attention to his health had probably assisted in preserving him to such a great age; but irrespective of this, his skin must have been in good working order, seeing that, up to the time just spoken of, he had never had the least thing in the way of eruption; and his health must have been fundamentally sound, for the surgeon who attended him in his last illness stated that there was not an organ in the body wrong.

CHAPTER II.

Disordered States of the Skin.

Great Variety of Diseases of the Skin.—Arrest of Functions of the Skin.—Perspiration more or less Abnormal.—Effects of drinking Cold Water, when heated.—Mode in which a Chill acts upon the Skin.—Disease not resolved by Sweating.—Relation between catching Cold and its Cure by Perspiration.—Effect of a Surfeit, or over-heating of the Blood upon the Skin.—Disease of the Skin supposed to have got into the System.—Tender, irritable state of the Skin, and Diseases of the Skin.—Arrangement of Diseases of the Skin.

THE skin exhibits most forms of disease to which the internal organs are liable, besides many peculiar to itself; dreaded varieties of affection, such as cancer, are repeated here, while on the other hand we may find many disorders of the skin, of so slight a nature as scarcely to call for more than the affectionate quackery practised by the skilful mamma in the nursery. Some of its diseases, albeit, obstinate enough, are withal so simple and of such common occurrence, that they have been popularly known for ages; while others are of so obscure and complicated a nature, that they can scarcely be recognized by the most practised pathologist, unless they are illustrated by water-colour drawings or photographs, and not always then. In my

presence a specialist mistook, for lupus, a photograph of a totally different disease which he himself had been the first to describe. Skin diseases, too, are so numerous that, with all the pruning possible, they could not be reduced much below sixty varieties, and to pourtray all these would require so many descriptions. Any attempt therefore to give even a very brief sketch of every disturbance to which the structure and functions of the skin are liable would lead us too far, it being quite impossible to compress what is requisite to be said into the compass of a few pages. Besides, for reasons to be stated at the close of this chapter, it would be superfluous, seeing that the rules of hygiene are, with few exceptions, applicable to all forms of cutaneous affection; and it will therefore be much less confusing, and indeed preferable in every way, to consider them as a simple and indivisible group, which might, for the purposes of this work, really be ranked and spoken of as one disease.

But, first of all, it will be necessary to examine certain general disturbances or faulty states of the skin and system, to which for ages great importance has been ascribed by all classes of the community, and to the proper explanation of which a certain degree of interest must attach; for it ought to offer the service of not only disinterring a slight amount of useful truth from under a mass of useless error and fable, but of overthrowing erroneous ideas which lead to hygienic mistakes, equally troublesome in their results to the practitioner and the patient.

Foremost amongst these disturbances is checked perspira-

tion, to which patients ascribe so many of their internal complaints, as also very often the inveteracy of any skin affection they may happen to be labouring under, particularly when accompanied by a dry harsh state of the skin itself. This condition is usually attributed to a chill caught when the body was heated, especially through being exposed to a draught at such a time; the cold having, we are to assume, so constricted the excreting vessels of the skin, that the normal outlet of dangerous matter through them is completely checked. Justly enough the theory of the case is, that man's first duty here must be to restore the arrested secretion. This is the patient's creed, and whether the case is so slight that he thinks he may safely leave it to the unassisted efforts of his constitution, or so sharp that he decides to call in medical assistance, he equally believes that the great aim of treatment, domestic or scientific, if it have an aim at all, must be to re-open the outflow. Yet, devout as people may be in their faith, it is questionable whether one person in fifty could reduce his idea, as to how all this takes place, to a definite shape; and more than doubtful whether the idea, when it had been moulded into form, would bear looking into.

Entire arrest of all the excretory functions of the skin most probably never yet happened from a cause of this nature. The state thus induced would certainly prove fatal and in a very short time too. When the action of only a large part of the skin has been brought to a standstill by a scald or burn, the consequences are always of a serious, often of a deadly, nature; the sufferer sinks with a rapidity which all the powers of art cannot stay for an hour. And

supposing a man, the functions of whose skin had stopped, were to escape the immediate results, his doom would only be postponed for a brief period. Effects, of so grave a nature that we can scarcely understand the human constitution supporting them for any length of time, would begin to manifest themselves within the first twenty-four hours. We have seen that the skin throws off on a fair average two pounds daily of excrementitious fluid. Allowing for a great deal of what is retained being carried off by the vicarious action of the kidneys, which in such emergencies comes to the help of the skin, the surplus would still distend the frame at the rate of several pounds weekly, and every person subjected to the effectual operation of a chill, from which so few escape, would at the end of a month be in an advanced stage of dropsy.

Such a contingency, then, as the insensible perspiration, the great function of the skin looking to the bulk of waste water and carbonic acid carried off by it, being quite checked, may be left on one side; indeed in the dry feverish state, which might most of all be supposed to indicate suppression of this office, it is sometimes going on with unwonted rapidity. For instance, it has been stated that in scarlet fever, when the skin is quite parched, insensible perspiration is in a high state of energy, and that the patient loses weight faster than can be accounted for by the operation of other excretory functions. Dismissing, then, the invisible perspiration, we come to the visible, or sweat as it ought to be called; the stoppage of which by a chill, every person who has suffered from it looks upon as tantamount to the forced retention within his frame of a lethal matter, which the

natural actions of his system were busy in expelling, when imprudence or misfortune brought the operation to a halt. This opinion, in a more scientific shape, seems to find great favour in the medical world, though a little reflection would show that it is well nigh as unfounded as the view just combated. Catarrh, and a very few of the almost countless disorders attributed to a chill acting upon a heated frame, may now and then be induced by it, but the retained fluid is as powerless to effect the mischief as it would be to burst a sewer.

For, if a mere retention were the cause, pray in what state must the frame have been before the outflow began? If a man, who has been perspiring so profusely as to have thrown off a large quantity—say a pint—of fluid, be made seriously ill by checking the drain, he must have been in a worse condition with this amount more in his system, *and no reasoning, scientific or sophistical, can get over this fact.* This is not so much a question of getting rid of an excrementitious fluid, as of suddenly draining off a quantity of harmless fluid direct from the blood itself. There is reason to believe that perspiration is always more or less an abnormal act. It is notorously most profuse in the weakly, consumptive, and intemperate; while it disappears altogether, or is reduced to zero in the prairie Indian, the prize-fighter in high training, or a man of that sound organization which, even in civilized life, approaches the iron strength of the wild hunter and trapper, as was the case with the first Napoleon, for instance. Perspiration may be looked upon as an abnormal increase of a natural process, the transpiration; but when an excreting organ is excited to hyper-

activity, we find that the increased amount of secretion is due to augmentation of the watery element in it (excluding, of course, diseased processes with which we have nothing to do here), mixed with some harmless ingredient. Both are incapable of doing any mischief when retained, and the skin would itself free the system from anything burdensome they contain, without the aid of perspiration; experiment having shown that the ever active operation of the vital power each day restores the body in its normal state to the weight at which it stood four-and twenty hours before, solid growth being duly allowed for.

The solution of the problem must be the same which obtains in many similar cases; coincidence has been mistaken for cause and effect. A draught of cold air, coming into contact with the body heated by violent exercise, seems, when it does mischief, to effect it by attracting the vital power to the part on which it impinges; it acts, in short as do a hundred other hostile agents—pouring boiling water upon the skin, rubbing in an irritating agent, impact of lightning, and of all the various animal poisons supposed to enter the body through the pores of the skin, which could no more pass through the pores than they could through the realms of æther. The reasons for arriving at the above opinion are given more fully in the "Laws of Life" than I could find space for here.

In order to exemplify how drinking cold water, when the frame is heated, acts upon the skin and system, instead of merely checking perspiration, I will take a case in point. To do so demands an extreme instance and one of incontestable accuracy; the following, I think, fulfils both require-

ments. It is taken from the classical work of Sir Thomas Watson on the practice of physic, and is narrated with the clearness and elegance which characterize all the writings of that distinguished physician. I can, however, give it but very briefly :—A young man, when greatly heated with playing at fives, sat down and called to a servant to bring him a pitcher of water just drawn from the pump. Of this, as soon as he had recovered his breath, he drank a large quantity at once. His head suddenly fell upon his shoulder, and he bent forward; his countenance became pale, he struggled for breath, and, in a few minutes, he died. Now, it is evident that arrest of the perspiration could have nothing to do with the fatal event; this was far too sudden for such an agency to have intervened, and it is for this reason that I have selected it, as showing conclusively that the most severe form of action, which can be conceived to result from the perspiration being thus checked, takes place, not through shutting up the pores of the skin, but by a violent impression made at the part with which the cold liquid comes in contact, and most probably in the following manner. Hard exercise tends to raise the heart's action, a fact with which all but the most unobserving are quite familiar, and whatever does this attracts a proportionate amount of vital power to the part in motion. The longer this is continued the greater the strain on the system, and when, in addition to this, a new disturbing cause appears, like that of cold water suddenly precipitated into the stomach, such an increased withdrawal of power takes place from its natural seats in the vital organs, that enough is not left in them to carry on the functions of life, and fatal

syncope ensues. That the exhaustion and not the arrest of perspiration is the cause of mischief, is, I submit, shown also by the fact that men in at least an equal degree of heat, but not distressed by over-exertion, and therefore with a necessarily larger amount of dangerous fluid retained within the frame, constantly drink cold water with impunity.

In less serious cases, then, it is just as likely as not that the same mode of action ensues, and that the arrest of the sweating is a mere complication; one of the things which strike the senses, and for that very reason to be distrusted, as such impressions are so very apt to mislead the judgment. What rather strongly tends to confirm this view is the fact that every disease attributed to this cause happens without it. There are persons who would summarily reject this doctrine. Their faith in a chill and checked perspiration is transcendent, and they scout all reasoning likely to cast the shadow of a doubt upon it. If they did not catch the chill just before the illness, they did so some time previously; and educated men and women are often enough heard fathering some complaint or other upon a cold caught years before, the patient having never thrown off the effects of it. Even if driven from this stronghold, the true believer can always fall back upon the hypothesis that he must have caught his chill somehow without knowing it; in which state of faith we may leave him, it being as useless to reason with a person who talks in this way as with a savage who cannot count the fingers on his own hands.

Conversely, disease is not resolved by perspiration, and though popular belief, and, what is still more, medical

opinion, have so long leaned to this view, yet the evidence against it is next to irrefutable. Undoubtedly, free perspiration accompanies the passing off of some diseases, but the rider to this is that the same diseases yield without profuse sweating; that in some complaints where this excretion pours forth plentifully, as in ague, it does not permanently relieve the patient, who generally finds far more benefit from quinine, a remedy which in no way promotes sweating. The attempts made, for ages, to cure disease and ward off mischief by setting up perspiration, were accompanied by greater fatality than has attended any other method of treatment; and when this system was at its height, it was not unfrequently more destructive to life in one year, taking England alone, than a great battle would have been.

A man catches a chill, or fancies he has done so, and thinks he has a cold coming on. He takes a hot bath, goes home, swallows a jorum of gruel or negus, puts his feet in hot water, goes to bed, and, after a time, breaks out into a sweat; next morning he gets up much better. All the king's horses and all the king's men will not get the belief out of his head that he has narrowly escaped having a very bad cold, and that it was the throwing him into a sweat which did the good, and it must be owned that the belief derives some colour from the facts of the case. But the evidence on the opposite side is much stronger; the hot bath often fails, as, indeed, does every kind of bath, in genuine catarrh; the effect of the chill might have passed off under the influence of the bath more quickly than it would have done without it, but, according to my observation, the latter only accelerates a natural process of relief.

As to such contingencies inducing genuine cold (catarrh), or such remedies carrying it off more than once in ten times, if as often, I feel very sceptical. The two events coincide now and again, and then the exceptional case, which accords with the favourite theory, is borne in mind, while the rule, which runs counter to it, is forgotten. The worst kind of catarrh (influenza) is clearly due to atmospheric influence, and never brought on by exposure to draughts. In some epidemics of it thousands of people have been attacked within a few hours; on one occasion, according to a statement in a leading paper, 1,200 of the London police were invalided in one day for influenza. Barracks, schools, government offices are invaded wholesale in the course of a few hours. In much the same way summer catarrh, or hay fever, attacks at one time all those subject to this plague. And when either of these, or any kind of catarrh is present, it may be affirmed that for one person relieved by baths, possets and heaps of bedclothes, twenty derive no permanent benefit from the process; while thoroughly scalding the skin over the nose and forehead, and steaming the nostrils, followed by a good dose of laudanum, none of them likely to induce perspiration, will do more towards cutting short a catarrh than any amount of sudorifics.

Perhaps this form of belief is most rampant in the case of patients suffering from feverish diseases of the skin. Mothers are only too often impracticable on this head when their children have got an eruptive fever of any kind, and carry a proper dread of imprudent exposure to the most mischievous height; quite ignoring—what sad experience has taught medical men—that overheating the patient only

exasperates the symptoms, and that children want fresh air and ventilation of their rooms as much when they are ill as when they are well. Years ago, when physicians used to aid and abet this system to the full, the mortality from scarlet fever was frightful, and the young were mowed down by this disease as by the scythe of a pestilence. With more fresh air and fewer bedclothes these horrors have comparatively ceased.

The statement, a few paragraphs back, about the impossibility of animal poisons or "seeds of disease" entering the pores may create surprise, but it is made upon due reflection. Those who accept such a doctrine would do well to recollect that for this purpose the said seeds must float, for which they are not adapted, being animal matter, and, therefore, heavier than the air. Again, to reach the skin, except that of the hands and face, they must penetrate, or creep under the clothes, which they have no apparatus for doing; and when they got to the skin, they could not enter by the pores unless they were endowed with the power of selecting the openings, and forcing an entrance against the laws of Nature. They are at least semi-solid, and it is very doubtful whether the pores absorb solid or half-fluid substances. For years I frequently prescribed tartar emetic in frictions, almost daily mercury, often forty or fifty times in a month, as well in this form as in that of vapour. Both these bodies are spoken of as capable of absorption, but I never saw reason to think that anything of the kind took place. The careful experiments of Madden, Abernethy and other observers quoted by Baly and Müller, show that, even when the bare skin is exposed for a long

time to contact with water or gas, absorption is very limited. The gain in weight, said to have sometimes taken place in disease, through the skin, was most probably due to inspiration by the lungs: and even were this objection surmounted, there would still be no parity between the circumstances under which absorption of vapour happens, and that of disease germs is supposed to happen.

The next great disturbance of the system to which skin diseases are attributed, is an overheating of the blood, the nature and operation of which are several degrees more incomprehensible than those of a chill, but which are none the less firmly believed in. For though the idea itself has never yet been either described or understood, though it resolves itself into a hazy notion in the patient's brain, that as he "came out in a rash," he "must have overheated his blood," yet the belief is as fixed as in that of the sun at noon-day. This process the patient often defines as "a surfeit." The entire theory is a mass of error; when the blood is really heated, as in some fevers, there may be no rash, and every disease attributed to overheating appears without anything of the kind. Chronic internal disorders are constantly ascribed to the rash thus brought out having been driven in subsequently, by a chill or the mismanagement of the medical attendant, who thus damaged the patient's constitution instead of nursing the rash and bringing it out properly, as he ought to have done. This misty hypothesis, therefore, fits into the theory of checked perspiration, much as two pieces do in a puzzle map, reminding one rather of the "Counterpart Cousins," where each possessed the qualities wanting in the other.

Supposing a man, possessed with this idea, has had the good luck to escape the danger of shipwreck to his constitution, and is consequently suffering from his disease of the skin, he has yet another source of mischief to alarm him, which is, that the doctor he goes to will not "throw out" or "bring out" the rash sufficiently, and thus purify his blood to the necessary extent. When the surgeon, from conscientious motives, declines to make him worse, such a person generally betakes himself to the herbalist or quack doctor, one of whom very likely gratifies him by exasperating his disease to the utmost. Or, perhaps, knowing his constitution better than any one else, he undertakes his own cure, and reduces himself almost to destitution in the purchase of sarsaparilla, blood purifiers and so on, which are as capable of cleansing his blood and purifying his skin, as they are of taking the colour out of marble.

Criticism may reply that those are only the crotchets of ignorance, and that time is wasted in refuting them. Such an answer would do very well for those who believe that education can teach common sense and the power of observing facts, but it will not stand taking to pieces. These errors, under one shape or other, are to be found in every circle of society; they are one of the moving springs in the immense yearly expenditure by the middle and upper ranks, on more costly but not more sensible forms of quackery, such as hydropathic establishments and fashionable baths, and they have fastened only too strongly upon medicine. The physician, who talks about eliminating a poison which is neither to be seen nor felt, the existence of which has never been proved, is after all telling us much the same thing;

his learned exposition of the process by which the seeds of disease enter the system, fructify there, and are expelled by the emunctories, the extrusive power of which is to be assisted by his remedies, sounds to me, in its closing phrase at least, very like the patient's theory under a more scientific form and hallowed by high authority. It is not to be wondered at if the ignorant cling to this kind of creed, when we find it flourishing in the shade of the academy or issuing from the professor's chair. But thrive where it may, and in whatever guise, it is only a piece of superstition, which, while it never did any good, often does a great deal of harm, and engenders a host of confusing phrases and ideas.

Of this the topic under notice affords a convincing test. Not one person in a hundred could give an intelligible account of the surfeit or overheating of the blood to which he ascribes his eruption; a little cross-questioning on this head will soon satisfy the inquirer. The surgeon cannot, if he wished ever so much to do so, repel a skin disease; he could as easily drive an eruption into a paving stone. No medicine possesses such a property; neither does any local application. There is not on record a single authentic instance of an internal disease having occurred in consequence of a rash having been driven in; and when the two circumstances have happened to the same person, it is really the internal disease that has begun first, an event which frequently exerts so rapid an influence over affections of the skin, particularly that characteristic of so many of them—redness, as to account for much of the prevailing error. Skin diseases accompanied by profuse watery discharge, and

ulcers of large size and pouring out an abundance of matter and serum, were at one time purposely kept open even by medical men, and, if people speak the truth, the practice is by no means extinct. The closing of such outlets was dreaded, not because any ill effects had ever been observed to follow, but because superstition taught that they might happen, though it did not attempt to teach mankind what particular disease they were to look for in such a case. Years ago I showed that these diseases cannot be cured too quickly, and that they only yield to measures which improve the general health. Lastly, the idea that any medical man can bring out a skin disease is as unfounded as thinking that he can drive it in.

But, though the patient's creed labours under the disadvantage that it has no bottom to stand on, and of being so vague, that for my part I can only compare it to the "formless shades" spoken of in Ossian, yet it is at any rate consistent. It was reserved for medicine to discover that the very agent, supposed to drive in so many diseases of the skin, can bring out at least one of the number, an announcement of so startling a nature, that I should not have ventured to make it if I had not had chapter and verse for what I am saying. A gentleman professing to be and looked upon as an authority, tells his readers that lepra, one of the most strictly constitutional diseases known, is sometimes traceable to a chill. The leading continental author on skin diseases speaks of the idea as inconceivable, and with great truth. But the public do not know this: they accept and repeat this gentleman's views, as reflecting the opinions of those who have specially studied skin diseases,

and he has the art of making these views popular. This much, however, may be said in justification of such a tenet. Willan's great pupil, Bateman, mentions, evidently with surprise and incredulity, that his famous master "imputed the origin of lepra to cold and moisture, and to certain dry sordes on the skin."

Having endeavoured to show how much there is illogical and unfounded in the two favourite theories, it will not, I hope, be thought requisite to devote much time to the only remaining member of the family worth entering the lists with, and this is the fixed conviction in the minds of many persons, with an old eruption, that the disease has got into the system or is in the blood. It will be an act of charity to reduce the first of these opinions into the second, and to assume that when the patient speaks of his system he figuratively alludes to the blood which circulates through it; for we cannot fancy a man, who can think at all, believing that all the solid structures of the body are studded over with nascent crusts, scales and tubercles, though we can understand a person believing that his blood is full of the seeds of his disease. I therefore take the latter opinion and proceed to deal with it only, which I more particularly do, because what holds good against the one certainly tells against the other.

The belief, that an eruption can get into the blood, is one of the many errors which are very plausible to the ear and very unsound when scrutinized by the judgment; easy to affirm and difficult to overthrow. Such a theory can be stated in a few words, and yet might demand an essay to refute it. In order therefore to avoid a long discussion, I

propose to meet it by a few brief assertions, which however will perhaps convey the results of my own observations as effectually as a chapter of argument. Disease of the skin does not get into the interior of the frame as rain would soak through a leaky roof, nor is it taken up as water would be by a sponge, or in any other way; and though some strong applications may occasionally be absorbed, yet as a rule nothing gets into the blood except by a breach of the surface or digestion in the stomach. Diseased states of the blood there are, but there is no disease of the skin peculiar to them, nor is there any state of the blood peculiar to cutaneous affections generally, or to any skin affection in particular.

This concludes what I have to say on popular theories. Those who wish to go farther into the subject will find it more fully discussed in the companion work on the laws of life, which is chiefly devoted to the consideration of the causes of skin diseases. I gladly turn to the more practical subject, with which our work really begins; and that is the tender, irritable state of the skin which so much distresses many persons, without being accompanied by so much disease as to call for medical attendance, and to skin diseases themselves. From these must be deducted such complaints as measles, scarlet fever, small-pox and so on, as they are rather fevers accompanied by eruptions, which do not call for any aid on the patient's part beyond strict compliance with the orders of the medical attendant, in whose hands the case should be left. Such disorders, however, not unfrequently leave behind them a tendency to disease of the skin, which would legitimately fall within our

province. We must also deduct a certain proportion of diseases caught by contact, such as itch, which also require nothing beyond attention to the surgeon's instructions, although this complaint, too, often sets up in the skin a disposition to mischief of another kind. Ringworm in all its varieties, albeit sometimes at least caught like itch by contact, I propose to retain; for although popularly, and often medically, considered to be a trifling affair, it sometimes turns out to be an excessively obstinate malady, requiring great attention from the patient. Lastly, we have all other kinds of skin diseases. Some few of these do not require and are not benefited by hygienic rules, but such cases are very exceptional, and perhaps do not amount to more than one in a hundred.

To sum up then, the group of cases, for which I propose to give directions, comprises all diseases of the skin except those omitted in the preceding paragraph, and the tender, irritable state of the skin, which is often but another name for undeveloped disease. To these the rules of management now to be given are applicable, and strange as the assertion may sound, I yet state, as the result of my own observation, that the same directions hold good for all diseases of the skin; and that those suited to maintain this organ in a state of health are so nearly identical with those calculated to assist the efforts of the medical attendant, that any attempt to separate them would be superfluous. There is accordingly no need to enumerate the different skin diseases comprised in this arrangement, to classify them and descant upon their nature and origin. Such matters belong to medicine, and not to a purely practical work like this.

Lastly, it is to be understood that such rules are not put forth as fitted to supersede the necessity of proper medical attendance. I do not profess teaching people how to treat disease. All that is aimed at is to enable the patient to second the skill of his medical adviser, and to avoid those errors which so often frustrate the best laid plans of treatment.

CHAPTER III.

Management of the Skin.

Conditions necessary to maintain the Skin in a Healthy State.—Due Nourishment of the Frame.—Variety of Opinions about Diet.—Chemical Theories about Food.—Breakfast; Tea and Coffee, Milk; Substitutes for Tea and Coffee; Bread; Salt Meats, Eggs; Dinner; Meat, Fish, Vegetables, Salads; Beer, Claret, Spirits; Cheese; Dessert, Fruit; Coffee after Dinner; Tea; Supper.—Light Diet, Full Diet; Smoking; Avoiding an undue Strain upon the Skin.—Hygienic Rules for the Skin.—Soaps; Pears' Transparent Soaps: Analysis of Soaps.—Baths.—Exercise.—Freckles, superfluous Hairs on the Face, Moles, Warts; Clothing.

THE conditions necessary to maintain the skin in a sound state, to restore it when disordered, and to second the efforts of the physician when engaged in the task of removing some one of the many diseases to which it is liable, may be classed under three heads :—

1. That the frame must be properly nourished. 2. That no undue strain must be put upon the skin. 3. That the skin must be subjected to proper rules of management.

1. *That the frame must be properly nourished.* By this is naturally meant that there should always be an adequate supply of food, and that the food itself should be of such a quality as will supply the waste constantly going on in the

system. But before deciding upon what is to be considered a proper quantity, it will be necessary to discuss the separate items constituting what we recognize as food; as a general principle, however, it may be said that, when a man is in good health he can scarcely be too moderate, but that when he is suffering from decided skin disease too low a regimen is a great mistake. Even when there is only a tendency to skin affection, restricting the supply beyond a certain point often brings on a pallid, coarse and relaxed state of the skin, which in some persons soon begins, from the operation of this cause alone, to emit a disagreeable odour. And this is not an instance of coincidence being mistaken for cause and effect; the cases, occurring principally in self-starved maniacs and persons suddenly reduced in circumstances, leave, in my opinion, no doubt as to the reality of the fact. Consequently, I should feel disposed to say that, though starvation may do in health, an ailing skin must, like many exhausting states, be fed somewhat as fever must.

And first, as regards what we can glean from the opinions of experienced practitioners with regard to diet, I may at once observe that, though beyond all doubt conscientiously stated, they must have been too hurriedly formed, for they are so often in direct conflict with each other, that I have no choice but to pass them by and leave the ferment to settle of itself. When we find one author recommending great moderation in respect to meat, and another advising that it should be eaten three times a day; one author, like the late Mr. Skey, ordering his patients half a bottle of port wine daily and a glass of rum and milk to begin the morn-

ing with, and one of his colleagues denouncing such practice; when we find this dissonance of sentiment extended to every article of diet, and every precept laid down by one authority confuted by another authority of equal weight; when views are so jarring that no mental alchemy can extract from them a single tenet of practice which may be relied on to stand a fair trial in every man's hands; then time is wasted in sifting and weighing such irreconcilable statements, and there seems little choice left except to fall back upon the theory of Dr. Johnson, that every man has a right to his opinion and every other man has a right to knock him down for it.

In opposition to both parties, we find medical men of no slight ability denying the value of all rules and regulations whatever respecting diet. They hold that it is an affair of individual experience, and that the patient's own instincts soon teach him what he may and what he may not safely eat and drink; and that a man might as well try to tie a knot in the dark, as puzzle his brains by striving to frame a code which shall suit all constitutions. With them the rough old rule of thumb is worth all that the philosopher in his cabinet, or the chemist in his laboratory, can tell us: and the accumulated wisdom of ages does not outweigh the worth of the old proverb about "one man's meat being another man's poison." Probably these gentlemen are, in so much as concerns the best diet for skin diseases, as far from the mark as the advocates for extremes on either side.

Of the laborious investigations undertaken by several distinguished chemists, with a view to ascertain the exact amount and quality of nutriment contained in each of the

various articles which we consume as food, I wish to speak with all possible respect. The divisions into the farinaceous, oily parts, and so on, into heat and force-producers, are no doubt of value to science: the difficulty here is to reduce such labours to practical shape. The remark made half a century ago by Sir Henry Holland, that "no proportionate benefit has yet been obtained from all hitherto written upon it" (diet), still holds good. Irrespective of this, all such systems are apt to generate hobbies, which do harm by militating against the experience of common life. Thus, from the distribution into heat and force-producers, one eminent authority has evoked the theory that vegetable diet is suited for a long steady pull like that of the horse and ox; meat food for the sudden bound like that of the wild beast on its prey. A single instance makes shipwreck of the theory. The dash of the tiger is not more sudden and vehement than that of the gazelle and spring-bok; the endurance of the ox and horse is equalled by that of the flesh-eating wolf, with its "long gallop," and of the hound which pursues the wolf.

The hypothesis reminds one of the old creed, that eating flesh makes a man ferocious while a milk-and-bread diet evokes the more lamb-like properties of his nature; a tale which one experience alone, the meekness of the rice-eating Sepoy, is sufficient to overthrow, but which is indeed refuted by a hundred daily facts. Looking to such evidence we might put the two doctrines on the same footing, and leave both in the hands of Time. Besides, even the best established facts in the chemical theories of foods have not, so far as I can see, advanced much beyond the rude teachings

of experience; decisive proofs that given results in this direction can be effected with anything like certainty are still wanting. Nor could one person out of five hundred live according to any chemical theory of nourishment yet propounded; the day has not yet come when a busy man can weigh out his daily allowance of albumen, sugar, farinaceous matter and oil. Man is a refractory animal, and alone of all animals he seems not only to resist with impunity, but to be benefited by, departure from the original diet; he is not easy to feed by the best theory, and we cannot fatten him or keep up his strength, as we can with an ox, by following certain rules. Consequently, I prefer here trusting to personal observation, and I may as well state at the outset that this observation has been confined to purely practical points; that no attempt is made to deal with the abstract qualities of food, and that the object aimed at is to show the patient what articles of ordinary diet must be avoided, and what may be taken with impunity and even with benefit.

The data, then, on which the following rules are based were principally drawn up at St. John's Hospital, and the mode of conducting the observations was as follows: one article of diet was experimented on at a time, and the patients, having been furnished with short instructions about it, the more intelligent of them were asked to give their attention to the matter, and to communicate their unbiassed opinions as to the influence which each seemed to have. Those familiar with such inquiries will not be surprised to learn that many of the patients had nothing to report, and that the answers of others revealed an absence of attention,

or want of ability to observe, which deprived their statements of all value. Still, on the whole, a large amount of information was collected, and this, supplemented by numerous notes taken in private practice, is digested down into the following rules, materially amplified since the appearance of the first edition in 1879. I have been told that they are too dogmatic in point of style; I must plead in excuse that I want to say what I have to say in the clearest and most precise manner, and that I do not want to waste the reader's time. Provided I can effect this, provided I can steer wide of all obscurity, and all falling back upon platitudes and generalities, I shall manage to survive the censure.

A good breakfast is the first thing to look after, and, taken all in all, is perhaps more indispensable to health and vigour than any other meal. Tea or coffee may be selected according to the reader's taste, but I should advise that one or the other may be used, with certain restrictions however. These are, that articles of this class be pure and properly prepared. Simple black tea is best. It can, indeed, rarely be had of fine flavour; for in the general rage for cheapness people will not pay the requisite price, but many of the more respectable old-fashioned grocers keep it in a state of purity. No hill or Ceylon tea should ever be mixed with it, for though they may improve the flavour and colour they often prove too irritating for the nervous and dyspeptic. Persons of the latter class should make the tea by pouring the boiling water upon the leaves, and pouring it off again almost directly: indeed this is the only way in which the real flavour of the tea can be obtained, every minute even every half minute that it

stands after this spoiling it more and more. The fashion, prevalent in some parts of the continent, of putting the tea into a silver basket, or sieve, fastened to the spout of the teapot, and then filling this with boiling water which is poured over the tea into the cup, answers very well. Either method will do all that is requisite—that is to say, it will extract the flavour and grateful stimulus of the tea, leaving behind its irritating active principle, of which some indian teas contain a poisonous amount.

In every age there has been some one like Hanway or Tissot, ready to abuse tea, the violence of the arguments employed against it being, as usual, extreme in proportion to the want of sense and probability which they displayed. Perhaps no one went farther in this direction than the famous Count Rumford, who recommended "burnt soup" in preference to "that pernicious wash, tea, with which the lower classes of the inhabitants of these islands drench their stomachs and ruin their constitutions"; a practice which, when it is kept up, "never fails to produce fatal effects even in the strongest constitutions"!!

Such a tale, coming from an ignorant pretentious person like Hanway, would have excited no astonishment in those who knew him; but that it should have emanated from an able chemist, a close investigator, like Rumford, is both surprising and sad. No one knew better than himself that a statement, in glaring conflict with general belief and general experience, would not have been listened to in his own department of science if unsupported by evidence, and such evidence he neither produced nor ever could have produced. The records of medicine do not contain an authentic

instance of death being occasioned by the use of tea. At the present time, when the consumption of tea has so greatly increased, such a casualty is still unheard of; while the general mortality has greatly lessened since Count Rumford's day. The moderate use of tea being invariably fatal the immoderate use of it ought to be rapidly so; it seems to me that there is no getting over this argument. Yet Bishop Burnet for years drank sixteen large cups of tea every morning, and Johnson, who described himself as a hardened and shameless tea-drinker, indulged in the pernicious practice to an immoderate extent through great part of a long life. These instances alone would suffice to refute Count Rumford's statement; but they do not stand alone. There is plenty more evidence of the kind if it were worth while to produce it; for instance a good deal might be dug up in China, where incessant tea-drinking ought long ago to have swept off the whole population, and therefore so far as he is concerned the opinion may be dismissed, as one of the most extravagant and unfounded ever put forward. As a substitute for this poisonous drink, Count Rumford recommends wheat or rye sprinkled over butter melted in a frying pan and browned, after which it is boiled in water seasoned with salt, pepper and vinegar; forming no doubt a charming and refreshing beverage for an overworked professional man or a wearied traveller, and infinitely preferable to the deleterious cup with which such a person would freshen up his faculties.

I thought this kind of thing had died out but I was wrong. Not very long ago a gentleman of some eminence in the literary world denounced tea and coffee as "vice drugs";

tea cannot be converted into organized tissue and is therefore not a food but an irritating stimulating poison. People who drink it are blind and the craving for it is the expression of a disease; when a man works himself to death it is not the work but the tea that kills. Lehmann indeed found that the use of coffee retards waste of tissue, and Johnston observed the same of tea, pointing out at the same time how admirably it compensates for the short supply of proper food which so many thousands of the struggling classes have to endure, and what a valuable stimulant it is for the underfed and feeble. These two great men were both in the wrong. The author is astonished that "any physiologist should claim the diminution of the normal waste and renewal of tissue as a merit, seeing that life itself is the product of such change (!) and death the result of its cessation." For tea he proposes to substitute, as an improvement I suppose on burnt soup, infusion of fried or toasted bread crumbs, maize, &c.

The arguments already employed hold good here, and it will therefore be unnecessary to repeat them, but I have one or two special objections to offer. It is impossible to make out what this gentleman means when he calls tea a vice drug; whether it is a vice to drink tea, or that drinking tea leads to vice, for one of the two significations I suppose the word must have. If it be the former, then a multitude of highly respectable and decorous people will be mightily astonished to hear that they are daily committing a crime; if the latter then nine-tenths of the inhabitants of these islands are qualifying themselves for hot quarters in the other world, with a fair chance of figuring in this at their

respective criminal courts. The plain truth is that we meet with a great deal too much of this coining of words which have neither sense, precision nor etymology on their side; and a great deal too much assertion about food which will not bear looking into. Bread crumb soup may enter into the composition of organized matter; but if we are to exclude from use, from the business of life, all remedial means, all agencies to which we turn for getting rid of despondency and reviving the appetite, simply because they do not contain the ingredients of bone and muscle, we should have to reject about forty-nine drugs out of fifty, brandy, galvanism, fresh air and sea bathing. The substitute recommended for tea may be very restorative, but it must necessarily be just a trifle sickly and nauseating, something like bad toast and water; and I fancy the day is yet far distant when people will be invited to take a five o'clock basin of it instead of a cup of Souchong.

Coffee should be made from the freshly-roasted berry, and no chicory should be mixed with it. Experiment has shown that even a moderately free use of this drug will, in some persons, bring on torpor, yawning, nausea, giddiness, and almost total inability to work; consequently it is scarcely ever likely to do good, and the taste for it at all is an acquired one. Good coffee needs no such aid and demands no cumbrous machinery in the shape of cafetières, being made best of all in the old-fashioned way by pouring the boiling water upon the coffee and putting the pot upon the fire to boil for a few seconds: a method followed, I have been informed, by a man so fastidious and so often obliged to study his stomach as the great Napoleon. Lastly, it does

not require anything to clarify it, beyond pouring to and fro once or twice.

Tea and coffee should never be drunk at railway refreshment-rooms, eating-houses, confectioners' shops, and so on, being at most of these places, in London especially, of the worst quality. The coffee is particularly bad. I have tried it at numbers of these establishments, and never yet found it fit to drink, being only too often a nauseous, thick, dirty-looking fluid, seemingly a mixture of stale coffee-grounds and bad chicory, perfectly repulsive in appearance; the milk accompanying it, euphemiously spoken of as cream, being evidently enough at least half water. Having to dine at a fashionable restaurant, loudly praised in a popular journal, I examined the coffee served up after dinner, and found it of the quality described, having scarcely the least smell or taste of the berry. On inquiring into the matter, I was told that a Frenchman was retained in the establishment for the express purpose of making the coffee. The quality of the materials he had to work upon will, no doubt, be appreciated by those who have tasted the excellent coffee which a servant-of-all-work will put upon the table of any quiet old-fashioned lodging-house in Paris. The tea is a few shades less bad, its constitution not affording so much scope for additions, and labours principally under the defect of being made from leaves of very indifferent quality, and water highly charged with soda. Indeed it reflects anything but credit on our management of such matters, that nowhere in western Europe do we get such thoroughly bad tea and coffee as in this wealthy metropolis, and at the well patronized railway station.

People often say they drink tea because they can't get decent coffee in England, and that after having tasted the french coffee nobody can ever again relish that served up at home. This is a great mistake. The Martinique coffee is no doubt superb, unsurpassed for flavour and aroma; but the coffee sold here abounds quite as much in what the invalid most wants, the fine diffusible stimulant, and can also be had of excellent flavour. In fact this is potentially as much present in the common plantation as in the finest Mocha, Dr. Johnston, the famous chemist, having long ago pointed out that the coarse berry, if kept sufficiently long in the green state, acquires all the attractive qualities of the other. What spoils coffee in England is the making, this being generally done with a machine which can only be kept sweet by assiduous scalding and exposure to air out of doors; steps rarely if ever taken, the result of which is that almost every contrivance of this kind, at the end of a short time, smells very unpleasantly indeed. And so long as ladies will leave such matters entirely in the hands of servants, we may rest assured that the flavour of the coffee will be impaired. I therefore recommend every man, particular on this point, to make his own coffee. Sugar, about which patients constantly ask, is perfectly allowable as an adjunct.

Milk is harmless when taken with either tea or coffee; if used with the latter, it should always be boiled. Uncooked milk, however, is by no means the guileless thing represented in the traditions of pastoral life, and in some forms of skin disease must be interdicted. It often disagrees with elderly persons, bringing on great oppression at the stomach followed by severe and prostrating sickness, and when not

expelled in this way, will sometimes linger in the bowels under the shape of hard, cheesy lumps, causing great discomfort. Occasionally, it does not suit people in the prime of life, or even quite young children. Both the grown-up patients and the parents of the younger ones have repeatedly, when their attention had been drawn to the subject, noticed an improvement from leaving off milk, in the shape of relief from discomfort, so often indeed that I can only come to one conclusion on the point; and, though I bow deferentially to the opinion so eloquently expressed by Dr. Prout, that the addition of oily and albuminous to farinaceous and saccharine matter, which man has always made, equally in the rudest times and in the most refined forms of scientific cookery, only approximates his food to the constitution of milk, I must appeal to experience against using the great prototype of all food except in the way mentioned in this paragraph as permissible. Perhaps the greatest mistake of all is taking a quantity of cold milk along with meat to breakfast, an error not uncommonly committed in the hope of getting up the strength. On the other hand, it seems, in the shape of milk puddings, to be harmless even when taken freely.

Combined with fine old rum it forms an excellent restorative, imparting flesh, strength, and with these renovated spirits, where even such remedies as quinine, iron, port wine and tokay have failed. In addition to this it is the best remedy that I know of for the neuralgia under which many of these patients suffer. But all this only applies to good old spirit. New rum makes most persons sick and disinclined for food, and brings on headache, in

addition to which it frequently contains so much free acid as to curdle the milk. I therefore always stipulate that rum at least ten years old shall be used, and in the case of elderly delicate persons, it is often necessary to restrict the patient to spirit which has been kept twenty years.

No pains should be spared to procure milk of good quality, and I need scarcely say that this is not an easy matter in many parts of London. The West-end and City are well supplied; but, judging from my own trials and from answers to the inquiries I have put, it is usually in the suburbs, almost invariably at seaside places, and generally throughout the country, except in purely rural districts, more or less bad, often scandalously so. Some few years ago, the farce of passing an act to prevent adulteration was gone through. As sensible people anticipated, little benefit resulted to the consumer; as respects milk, I should say none at all; and I very much question whether, after all the expense the country was put to about this piece of legislation, one single person who previously sold adulterated milk ceased to do so. The medical officers seem afraid to move, and the mischievous decisions of some magistrates have not mended matters. The natural result is that watered milk is now sold as openly as ever, and, owing to the Adulteration Act, with a higher profit, at scores of dairies, many of the proprietors of which realize large gains by this nefarious practice.

There are one or two substitutes for tea and coffee at breakfast which had better be examined here. Foremost among these stands cocoa, which many people seem to relish

greatly, but which, if I were to trust my own judgment, I should call an unsavoury mess, spoiling the taste of everything it is taken with. The plea, however, usually put forward for drinking it is, not so much the flavour as its nutrient property, which I should think dearly purchased, and its easiness of digestion, which I beg leave to doubt. I have induced scores of persons to leave off cocoa in favour of tea and coffee properly made, and in no single instance have I learned that the change had occasioned any return of the dyspeptic symptoms. One great objection too, which I have to cocoa, is that, when taken with such articles of food as are essentially requisite for breakfast, it impairs or utterly spoils the natural wholesome appetite for them, and not unfrequently, in addition, coats the tongue and makes the patient low, bilious and irritable; symptoms which sometimes follow the use of cocoa taken with the simplest form of farinaceous food.

Porridge is another, though far less frequently employed, substitute. Its recommendations are that it is cheap, nutritious, easily digested, and a gentle but efficient regulator of the bowels. All this I grant, but it must be objected that porridge, however skilfully made, has little staying power; a man is hungry again three hours after eating heartily of it; those who have to endure wearing labour for several hours—as, for instance, country postmen in remote or mountainous districts—find in the end that they cannot continue to breakfast on porridge; while literary men, teachers, and so on, are now and then surprised by the discovery that the breakfast, which suited them so famously as schoolboys, fails when they have to stand the worry of life and the strain of

several hours' mental work. But I fancy faith in porridge is dying out, and the conviction growing up that the time for it is passed; perhaps, too, the question is, not so much whether it is or was a valuable article of diet, as how long healthy occupation, pure air, and original strength of constitution enable men to work on a kind of food, the use of which would not support the frame in a more artificial state of life.

Bread is one of the articles of diet about which the patient usually wants to hear something. The first piece of advice to him is that he should make every effort to procure it good, and for this purpose he will have to rely on his own exertions, neither legislature nor parish authorities offering the least assistance. Under the very nose of the medical officer appointed by the vestry, within sight of the stronghold of parochial power, the vestry hall, he might find a baker adulterating the stuff he sells as "best wheaten" to the extent of 50 or 60 per cent. with cones flour and rotten potatoes; therefore at any cost or inconvenience he must pick out an honest tradesman to deal with. Having got his answer on this point, the patient next inquires whether white bread or brown is best; the answer is rather complicated. Thoroughly pure, hand-raised brown bread, as made in the north, is at least as nutritious as the best white, and suits exceedingly well with a diet containing little meat and much milk, such as prevails in the parts where it is principally used. London brown bread, consisting of bran thrown into the sponge of adulterated white bread, possesses little more nourishment than if prepared from sawdust, and is consequently inferior to pure white;

besides it cannot be made tasty, a great point in the treatment of disease, and when at all dry becomes uneatable. Professor Church's opinion, rendered down into plain english, is that brown bread, though more nutritious, is less digestible than white. When the appetite is indifferent the bread used for breakfast should be toasted.

I have known several instances where men, enamoured of the french knife-and-fork breakfast, had tried the system in England, and, as a natural consequence, had taken claret with this meal, but I never knew one where it was kept up. Part of the failure may be due to the fact that claret is not suited for early hours in our climate, as it is to be recollected that the Frenchman takes rather an early dinner than a late breakfast, and when he rises betimes, often has, soon after he gets up, particularly on raw cold mornings, something light and warm, such as a cup of beef tea. I have been told that Mr. Ward Hunt drank iced water only for breakfast, and not improbably shortened his life by the practice; for doing away with the grateful stimulus of tea and coffee generally leads to waste being repaired in an opposite and worse direction—that is to say, it entails the use of a great deal of solid food at a time when the stomach will not bear such a burden.

The tea and coffee should be accompanied by an ample supply of ham, bacon, eggs, smoked fish, cold meat, and so on. So far as the pocket will allow of it, there should be plenty and variety; in respect to the latter point I think the precept laid down by Mr. Hunt, in his diatribe against monotony even when the fare is good, a precept forcibly endorsed by Dr. James Bennet in his excellent work on

nutrition, is thoroughly sound. A desire for change, a weariness of the same thing, is ingrained in the disposition of man, perhaps of the Englishman more than any other; and the results attending enforced continuance of even excellent dietaries, as seen in prisons, large schools and houses of business, show how potent a factor monotony is in lowering the health. I would, however, on no account advise the use of hot butcher's meat, such as a chop or steak, for breakfast, and I think, if the reader will observe for himself, he will find that a heavy breakfast of hot fresh meat is often a burden to the system; that however long continued it does not augment the strength, and that he cannot do so much work upon it as on broiled ham or bacon. As to the dread many persons entertain about salt meats inducing scurvy or exasperating skin disease, there is no ground for it. Probably enough, when people had to live for months at a time on coarsely-salted provisions without any change, any proper supply of fresh vegetables, as was often the case in the days of the Plantagenets, such a system did much mischief, but the habit has now so dwindled down as to have no significance.

There is perhaps no form in which monotony is more frequently seen at the breakfast table, than in that of habitually eating eggs at this meal. Some persons rather boast that they never take anything but "an egg," as if such moderation were a virtue highly to be commended. I offer no advice on such a point to those who are in health, nor do I suppose they would take it if I did, but I decidedly recommend the patient not to do anything of the kind; in fact the habit is rather the outcome of laziness, if not stupidity,

and these are among the good things in which people with skin diseases can't afford to indulge; the patient must be up in arms against his complaint. Over free use of eggs is even worse. In some persons, at any rate, the practice is followed by constipation, coated tongue, thirst, lassitude, headache, and a dry scurfy state of the skin. One patient, who, at the recommendation of his medical attendant, had taken three or four eggs a day for some months, said they had "filled" him "full of scrofula." I need scarcely say that eggs possess no such power; what the patient meant was that they had brought on a state of the skin and health which he mistook for scrofula.

Experience, assuming almost the form of instinct, has long taught the working-classes that the time for breakfast is from eight to nine o'clock; and that, although they may do two or two-and-a-half hours' work before this, they cannot long continue to eat at an earlier hour, and I believe it will be found that a large proportion of the healthiest, most energetic, and longest-lived men breakfast at about the time of the morning barometrical rise, from eight to ten a.m. This, then, is the period I would suggest for the meal, and the man who eats a hearty breakfast can go through the day with a surprisingly small amount of food. Two illustrations of this are to be found in the biographies of men whose great labours will ever awaken admiration, and they are so explicitly told that I suppose we may rank them among the facts which cannot be refuted. Lockhart, in his "Life of Sir Walter Scott," says that the renowned novelist ate a breakfast like a ploughman, but that he took little more food during the rest of the day; and in Brialmont and

Gleig's "Life of Wellington" it is stated that the Duke, in perhaps the busiest part of his existence, sometimes took no food at all, meaning thereby, I presume, nothing like a regular meal, from the breakfast of one day to that of the next. Looked at, then, through the medium of such experience, it would seem that breakfasting well offers the great advantage of being the most economical system which can be pursued.

Many people say they cannot eat breakfast; it is as much as they can manage to get through a thin slice of toast, or bread and butter, and a cup of tea or coffee. The answer to this must be that either the health is out of order, or there is something amiss with the habits. A screw is loose, and it must be tightened or the health will some day or other give way. There is no such thing as inborn want of appetite for breakfast; a person in really good health never suffers from inability to eat at this time of the day, and there is no disease—at least of the skin—which induces such a state. Perhaps nine times out of ten it might be traced to the morning beer, which such people are ready enough for by eleven o'clock, or to over-indulgence in stimulants. Late, heavy suppers and very late full dinners are sometimes the cause, but the extent of their operation is insignificant compared with that of the others. When once bad habits are given up, acids and bitters, conjoined with aperients, will usually soon set matters right in this direction; but till they are set right, a person suffering from disease of the skin is not likely to derive much benefit from the best regulated course of medical treatment and most efficient hygienic measures.

From breakfast-time up to quite half-past one or two o'clock, or even later, no food is required, and no stimulants except in cases of great weakness, and then under the orders of a medical man. I do not consider it any part of my business to discuss the question, whether it is best generally to dine early or late. I am taking here the case of those who have to study the point in reference to health, and for them I must pronounce in favour of an early dinner; when that is impracticable, then the lunch to be as substantial and the late dinner as light as possible. Assuming that the dinner is to be early, it should consist essentially of meat, a moderate quantity of well-cooked vegetables, and bread. The quantity of meat should, even in cold weather, not exceed half a pound as a rule, and during summer less will suffice; indeed, at this time of year, and in the case of persons affected with some diseases of the skin, I constantly advise, not only occasional abstinence from butcher's meat, but that only a moderate quantity should be taken at any time; and have, after narrowly watching the cases, seen no reason to alter the practice, or to think that the fear, so widely entertained about such diet reducing the strength, is borne out by facts.

There is indeed a very erroneous impression as to the strengthening power of meat. Waiving all questions about difference of race and climate, as only likely to entangle us in endless discussion, and narrowing the case exclusively to Englishmen, I say at once that they often consume far more meat than is good for them. Men in training, it will be said in reply, live almost exclusively on half-raw meat, and very strong men are seen in all classes of society who are

large meat eaters. But men in training get into fine condition principally because they leave off beer and other superfluities; it has been shown that even a small amount of malt liquor daily will vitiate the best planned system, and I have seen good reason to conclude that men train very well on a moderate quantity of meat. Besides training is an artificial state which cannot be maintained for any length of time, and therefore the conditions, necessary to carry it out successfully, are unsuited to cases requiring a prolonged course of treatment. More meat than is required by the system simply acts as a burden, which strong men may support, but weak ones sink under; and even the most robust derive no benefit from superfluity of nourishment. It is, I believe, pretty well known that men-servants in rich families who, on an average, eat more meat than any other class of the community, often make bad recoveries, and the number of such persons attending at the hospital is proof enough that over much meat does not tend to keep the skin in good order. At the same time, however, in proportion as meat is withheld, a more ample supply of less stimulating nutriment in the shape of broth, eggs, light puddings, especially those made with Chapman's wheat, potato flour, macaroni, and so on, should be allowed. Good home-made pastry, too, is allowable enough, unless severe indigestion is present.

Above all things I counsel the reader, if tormented with a disease of the skin, not to indulge in heating food, such as pork, goose, and strong soups. I am afraid I should be accused of exaggeration, were I to say how often I have traced relapses to errors of this kind; but I may state that

candid patients have, of their own accord, frequently communicated the fact. In diseases accompanied by a very irritable state of the skin, a free indulgence in roast pork for dinner, with a glass or two of ale—a beverage which possesses the property of always being mild on these occasions—will sometimes visibly exasperate a rash before the time for digestion is over. Pickles, except in great moderation and as flavouring material, should also be avoided, and in some nervous affections of the skin, nuts of all kinds must be renounced, even in small quantities; a meal which requires a quantity of the former to make it palatable is usually the outcome of laziness, and therefore objectionable if only on that score. In speaking of soups, the reader will notice that I refer to those which are strong, and, as a matter of course, such remarks are directed against the habitual use of these things. A moderate indulgence in the better kinds of home-made soups, particularly in raw, cold weather, is legitimate enough.

Having been frequently reminded that I had said nothing about fish in the first edition of this work, I proceed to make up the deficiency. I have never seen light fish disagree with the patient, as regards its effect upon the skin. Many persons do not digest it very well unless eaten with cayenne, to the flavour of which some people strongly object. Properly cooked and eaten occasionally in moderation, it offers a pleasant and usually a welcome change of diet. Whitebait and soles have always seemed to me excellent articles of food, especially when the appetite is bad, while boiled skate and flounder may be recommended for the weakly, as containing more nourishment (albumen) than

most kinds of meat. Salmon and eels often require more digestive power than the patient has at command; the former sometimes, particularly in close thundery weather, induces diarrhœa and severe obstinate dyspepsia. Oysters and very good shrimps are extremely wholesome and appetizing. All other shell-fish disagrees too frequently to be safe.

No fact stands better attested than that vegetables are absolutely necessary to health. The experience of bygone days taught a sharp, but wholesome lesson on this head, in the ravages which scurvy made in our armies, and still more our ships' crews, when they were not provided with vegetables and lemon juice. The symptoms of this justly dreaded scourge are so well known that it is unnecessary to mention them; but one deserves particular notice at our hands, and that is the great weakness accompanying scurvy, however ample the supply of meat may have been. The passionate craving, too, often shown by sailors after a long voyage, for green meat of every kind, even when they have been well provided with lemon juice, proves that vegetables supply some undefined want of the frame. For these reasons I always recommend a due proportion of them, especially the more nutritious kinds; not that they possess any curative property, as patients with disease of the skin often fancy they do, but because dispensing with them clearly leads to mischief. Salads, particularly some of the french ones which are so far superior to those eaten in England, offer an excellent means of using vegetables; and the vinegar eaten with them, which so many patients are afraid of, is perfectly harmless in moderation.

Cheese may close the dinner and dessert follow it. I should have thought both were so evidently harmless that it was quite unnecessary to say anything about their qualities, but I have been so often asked the question, that I am satisfied great uncertainty prevails as to whether it is safe to eat them. Cheese indeed cannot always be recommended because it is so bad in most parts of England as to be utterly distasteful, the foreign varieties alone being endurable, and these often only to be procured in large towns. The fine old cheeses, Cheshire, Gloucester, Cutherstone, Dunlop, &c., seem, like many other excellent articles of diet, to have taken flight; while the things, which now bear their time-honoured names, are frequently nothing better than compounds of skimmed milk cheese, curd, and adulterating material. A cheese of this kind, according to the greater or less prevalence of the second ingredient, often either breaks up into crumbling pieces, or turns into a species of soap; in either case the flavour is such as to deter a person accustomed to wholesome food from making a second essay. There are places where no cheese fit to eat can be had. In one seaside town I entirely failed to procure a single decent specimen; what I got hold of seemed to be composed of curd, arnotto and salt. To ripe sound fruit I see no objection, and I don't understand how there can be any. I believe not a tittle of evidence exists to shew that it ever yet did mischief, and any objection to it on preconceived grounds must, I should fancy, be the offspring of a diseased imagination.

The reader can follow up the cheese and dessert with a small cup of coffee. It should not be too strong, as the

tongue is apt, with english people at least, to get coated under the daily operation of even a small cup of black coffee; while a large quantity at this stage of digestion often disturbs the stomach uncomfortably. Taken as recommended, coffee leaves a pleasant taste in the mouth, and wards off a good deal of that after dinner sleepiness which some persons dread so much. When however this is overpowering, and the patient is delicate, perhaps the best plan is to yield to it; at any rate I never saw any harm come from doing so. Many of our hardest working, long-lived people have been in the habit of taking a nap after dinner.

A lady who has reason to be anxious about her skin should never touch beer, nor should one of the other sex. Of course we all know that there are plenty of people who can daily, for years, drink a quantity of malt liquor and yet never have a blemish on their skins; but such exceptions do not affect the point at issue, any more than the fact of some men getting drunk every day of life, and yet living to a great age, affects the rule that life is shortened by intemperance. In diseases of the skin beer is a perfect poison for most persons and does the others no good. The number of cases in which patients have voluntarily stated that they felt better since they abstained from beer, and of those in which relapses have been clearly traced to indulgence in this pernicious drink, is too large to leave any room for self-deception. A few scattered instances might lead to an erroneous conclusion on either hand; but such results as I speak of have been witnessed scores of times at the hospital, where the evidence on which they rest has been pretty well sifted; while not a single unequivocal

example of benefit from drinking beer has been recorded, although the patients have been expressly asked to state their own experience as freely as they could wish.

Of all the pestilent habits now prevailing, that of giving boys and girls beer is, perhaps, the worst. There are others which do their work more rapidly, but they are only casually put in motion; whereas the use of beer is always and everywhere sowing the seeds of mischief, eating like a leprosy into the land. Like leprosy, too, the habit gets more hold of the system with each successive year, the factitious strength and stimulus which malt liquor imparts, for the time, being made an excuse for continuing it, even when the victim finds that it is spoiling the natural zest for food; just as the dram-drinker reasons that he cannot live without food, and that he cannot eat till he has swallowed his morning dose. Other agents of mischief are perpetually checked in their operation by people seeing the harm they do; the effect is so visible that, if it do not work its own cure among its votaries, it rings out a note of warning to others; but beer acts too insidiously for that, and the evil is often done before suspicion is awakened. The grown up patient is paying the penalty of a mistake begun, it may be, fifteen or twenty years ago. In my own experience this has been especially noticed as influencing the skin, kidneys, and nervous system. The skin becomes thick, muddy, and pimply, a fact evinced by the speedy improvement which ensues from merely leaving off malt, without making any other change in the diet; I therefore again and again warn every young lady who values her complexion, and particularly when she suffers under a tendency to eruption of

any kind, to eschew beer as a worse poison than she could find in Apothecaries' Hall. *She is violating the rules of hygiene, by putting an undue strain upon her system and her skin*, which latter it is just as possible to overtax as it is to overload the stomach or work the brain too hard. Marked disturbance of the kidneys has often ensued, showing itself in excessive secretion of phosphates in the urine, pains in the back, weariness, and so on. Lastly, the nervous system is disordered to an extent past describing in a work like this; but among the symptoms may be put heightened sensibility to noise or agitating causes of any kind, often marked by great and sudden increase of the heart's action; sick headache, recurring frequently and ceasing when the beer is left off; indigestion, also yielding as soon as the exciting cause is withdrawn; loss of appetite; sleeplessness, perhaps accompanied by inability to lie down; and general feeling of gloom for which there is no apparent reason. Cider, though it does not induce so much *visible* disturbance of the constitution, is almost as mischievous with regard to the skin, particularly in patients suffering from eczema.

As a substitute, I would suggest claret. During the summer months nothing answers better than good St. Emilion, or Medoc; but in chilly weather it is often, in the case of invalids and elderly people, too cold for the stomach, and should be fortified by the addition of a little port or tarragona. As to the quantity, the patient, if grown up, may drink from half a bottle to a bottle a day of the french wine. From anything beyond the most limited use of brandied wines like port and sherry I have seen no good,

and often much harm ; besides, it is very difficult even for rich people, practically impossible for those who are not well off, to get them pure, most of what passes under such names being composed of poor wine adulterated with what is called brandy, but is really a coarse, fiery kind of whisky, rendered still more pernicious by the addition of fusel oil ; flavour, crust, and so forth being added according to order. This compound, when properly be-devilled, is principally adapted to stupefy, or madden, as temperament may decide, any person ill-advised enough to drink it, and make him sick and sorry afterwards. Madeira is so rare a wine, that I have had little opportunity of examining its qualities. I attended a patient who was very partial to it till he had three bad attacks of gout, followed by eczema, each outbreak being fairly traceable to a special indulgence in his favourite wine. As these improved neither his health nor his skin, he was sensible and resolute enough to give up madeira. Light white wines, particularly sauterne and chablis, are, during great heat, a pleasant and *usually* safe substitute for claret, which to many persons becomes highly unpalatable at this time. But their merits end here. After long observation I am disposed to think that they possess no curative property, and therefore, negatively, do harm by wasting time. It is not always, too, that they are safe. At any rate affections of the skin often relapse when they are being used, and thus, though it is not a pleasant alternative to put before the patient, there is sometimes no choice but to say that he must either keep his skin disease, or keep to red wine even when it has become unpalatable.

Good claret, the reader may say, is an expensive wine, and it can serve no useful purpose to recommend any but good wine, a cheap article of this class being merely weak acid stuff, with no body in it. Fortunately enough for those whose means are straitened, the opinion, founded on only too correct a view in general, is groundless in this instance. Cheap claret is not necessarily weak and acid; on the contrary it is, when selected with care, quite as well-bodied and as well suited for the treatment of diseases of the skin as Chateau Lafitte. This assertion may seem hasty, but it is advisably made. For nearly five and twenty years I have used the excellent St. Emilion wines, imported by the Wine Agency Company, in Piccadilly, extensively both in private and hospital practice. These wines are sold at a very reasonable price, and I have seen ample reason to conclude, that the patient makes as good and quick a recovery on them as on the finer varieties. Flavour, age, and a great name, have no influence over an unhealthy state of the skin. I constantly hear it urged that even low-priced claret is too expensive for the poor; but, looking to the relative amount of wholesome stimulus, it comes quite as cheap as beer.

The tarragona claret, now sold at the Andaluza, Mark Lane, of good quality at five shillings the gallon in the wood, is very well suited to hospital practice in cold weather, and for those who fancy the french clarets are too cold for them; its alcohol standard being, without any added spirit, one-fourth higher than that of the average Bordeaux wines. Though made from the same grape as the Catalan, it is a true claret, being allowed to ferment naturally. It is rough

of flavour, but sound and in no way acid, and, after using it for hundreds of hospital patients, I can safely say, that the working man who spends the same amount of money on it that he would do on beer, not only throws off disease of the skin more quickly, but gets through his work better. As the district where this wine is produced—of which Tarragona is merely the seaport, Reuss being the centre—can furnish quantities practically unlimited, it would be a great boon to the working-classes were it substituted for beer.

Whatever quality of wine be used, I should advise that it is on no account to be capsuled, which is only often another name for being badly corked, and thus spoiled by the admission of an intruder rapidly fatal to the finest wine. Specious as may be the reasons alleged for the use of this mischievous and tawdry contrivance, it is quite certain that it does not keep out the air, while the wine which escapes nto the capsule gets tainted, and often communicates an indescribably nauseous odour to what is in the bottle, so that it would be better to let the wine leak away. Wine bought in the wood for patients, and claret of every kind used for children, should always be divided off in so many bottles, each containing a day's consumption ; these should be tightly corked and stowed away in a cool place till wanted.

French burgundy is occasionally useful as a substitute for claret, especially in winter, but, unless I am deceived by my experiments, it is certainly surpassed by the clarets in curative power. In some instances this wine cannot be continued, as people make blood too fast on it. A gentleman, who had occasionally consulted me, said he could

take claret every day of life, but that if he drank burgundy for a week he was sure to suffer from bleeding at the nose, and had done so on several occasions. Burgundy is said to be a gouty wine, but after paying all the attention I could to the point, I have been led to question its influence in this way. Indeed I am disposed to say, that a good deal of what is supposed to be known about the qualities of wine is the offspring of tradition, or derived from hasty impressions. Thus I have known sauterne rejected as an acid wine, but it is one of the least so of any; it contains less acid than port, very much less than bordeaux and madeira, and only about half the quantity there is in burgundy; the last named wine again, as being more charged with alcohol, is daily superseded by claret, hock and moselle, all of which contain a larger proportion of spirit; and people constantly talk of buying sherry in London at a price for which it cannot be procured in Spain, selling indeed at Cadiz in the butt at a price equivalent to about four shillings the bottle. The Volnay Santenot, sold by Messrs. Pepler and Co. of Suffolk Street, can be highly commended, and is indeed very much liked especially by ladies, many of whom soon get tired of claret and infinitely prefer the soft delicate taste of this wine, generally known as frozen burgundy. Being subjected to a freezing process shortly after it is made, the water naturally contained in it is withdrawn, so that it does not require fortifying with coarse spirit, and is not liable to that recurrence of fermentation which constitutes such a great objection to ordinary burgundy. Lastly the rich taste of french burgundy as usually made is got rid of.

Such are the results of observations on these few wines extended over a period of more than twenty years. In dismissing this part of the subject without any reference to the many excellent little works on wine, it may be thought that I am over-riding the experience of others. But the fact is that, while I quite admit the value of such contributions in all that respects the history of wines, the mode of keeping and drinking them, their taste and table qualities, I have not stumbled upon a remark in any of them calculated to guide us in treating diseases of the skin. As to the certificates in favour of wines, they are now so numerous that the purchaser must be as much in doubt as to which is the best product of the kind, as to select the most curative of mineral waters or the most restorative of newly-invented foods. The wines, indeed, contain every quality that can be desired by the most exacting, and their remedial properties seem to have been ascertained with incomprehensible rapidity. But though such panegyrics may suit the purpose for which they are intended, they are quite unfitted for a system which requires so much precision as the treatment of cutaneous affections, and which compels the practitioner to reject everything but what is stamped with an exactness not to be found in reports on wines.

Spirits are not needed for the young, except in cases of indigestion or sudden and serious exhaustion, and should be used in great moderation even by the middle-aged and elderly, not so much on account of their injurious properties when care is taken to secure old and pure spirit, as because such precautions are so rarely taken even by those who have both time and money at command. Whisky and gin are

perhaps, in a general way, the least hurtful of all. A dutch distiller, by whom I was consulted for disease of the skin, told me that good english gin is the purest spirit in the market, being in this respect superior to anything made in Holland, a statement which surprised me, but has been been amply confirmed by several patients quite in a position to speak with authority. Consequently, a little of either of these may be allowed, with the proviso that purity is ensured. It was stated some years ago that, at one of the ophthalmic hospitals, cases of inflammation of the eyes, from gin splashed on the counters of public-houses, were of common occurrence; hence the reader may form an idea of what state his throat and stomach are likely to be in if he drink gin without regard to the source he procures it from. Brandy is sometimes requisite when indigestion is present, but the great cost of genuine cognac, which is the only kind I ever recommend, is almost prohibitory. Even greater care is needed here than with other spirits. Coarse adulterated gin and whisky generally—to a person who is ever so little a judge—betray their nature by their taste, but cognac is so well counterfeited that even an experienced toper might be deceived. A patient brought me a specimen which tasted like good french brandy, but he assured me it was all made in England, and added, in answer to my questions, that the only security for purchasers is the respectability of the house at which they buy. Rum should never be used except with milk as a restorative.

Ladies often suffer great annoyance from redness of the face, accompanied by large hard red spots which sometimes suppurate. The complaint, as is well known to surgeons,

yields easily to treatment, but if the patient happen to labour also under indigestion, this complication must be set right before anything effectual can be done for the disease of the skin, and here brandy comes to our help. In nine out of ten of these cases, when there is indigestion, it will be found to occur principally after dinner, especially early dinner, followed by long standing. Shop-girls, condemned to the monotonous fare of large houses of business, the huge joint day after day, with regulation vegetables and table-beer, often suffer in this way. The remedy is very simple; unfortunately in the latter class of cases it can rarely be put in force. The patient should dine daily off a chop, if possible cut from a piece of ribs hung till quite tender, with all the fat pared away, well grilled, and peppered with cayenne, a piece of bread and a single potato, all other vegetables being avoided. The only drink should be a little brandy and cold water. As this fare is not very satisfying, some addition in the shape of ham or bacon may be made to the succeeding meal. When the indigestion has passed off, she can proceed with the treatment of her skin disease, diet suited to this and claret; should she object that the latter induces flushing, the answer must be that it is not the claret but her stomach which is wrong, and that she stands a much better chance of cure by continuing the wine.

The disease just spoken of—rosy drop, or rosacea as it is called in the profession—is frequently attributed to intemperance, and indeed some *few* cases are so like the inflammation of the skin which results from over-indulgence, that they can only be distinguished with difficulty. In general, however, the experienced practitioner will not long be at

fault; moreover, the disease in the temperate rarely, if ever, assumes the bad form seen on the faces of drunkards. Still, common rumour is only too ready to credit persons suffering in this way, with the character of cherishing an ill-requited attachment to the bottle, and I therefore take this opportunity of saying that the opinion is, as regards perhaps forty-nine cases out of fifty, entirely without foundation; a statement quite borne out by the rapid improvement which the disease undergoes when properly met and by the rarity of relapse; for, were it caused by habitual intemperance, treatment would almost certainly have no effect, and the disease, if it mended under treatment, would return so soon as this was left off.

For the meal following dinner no very special rules are needed. Tea lightly drawn and used with the restrictions already mentioned, and coffee, are both in order. They should be taken in moderation, there being few persons whose nerves are, as Boswell puts it about Dr. Johnson, in a state of over-tension, and therefore require a deal of moisture to relax them, just as a fiddle-string when too dry might need soaking. With some persons even a moderate amount of such fluids is better endured when they are solidified with a little farinaceous food, to which no objection can be raised, indeed when the patient has to take medicine directly after, I recommend the addition; although I think the restriction should always be imposed, that if there is to be supper, tea should not be made a meal of. Whether a late tea or an early supper is best I confess I am unable to decide, and I believe the decision to be immaterial, but both should not be indulged in.

Suppers are good or bad, harmless or hurtful in proportion as the opportunity is used or abused. No meal more refreshes the frame and sustains the strength when properly enjoyed, but in none is over-indulgence more speedily and certainly visited by disturbance of the system. Men and women, not exceptionally strong, have eaten suppers all their lives and lived to a great age; thousands derange their health by heavy suppers, or find that they must give them up in consequence of the loss of appetite, coated tongue, costiveness, gloom and irritability which they induce. The popular belief that they bring on nightmare I consider to be a fallacy; I have known persons who never touched a late meal suffer in this way, and in none of the cases of nightmare which have been brought to my notice was a heavy supper the cause.

The great principle in taking supper is that it should never spoil the appetite for breakfast, and therefore must be moderate. We know there are men who can eat at any time; everyone has seen instances of persons who, after a heavy meal overnight were quite ready to begin again next morning; but for the general run of mankind the rule stands as I have put it. Equally I believe that the general run of mankind when dining early require supper. Cases where the health was gradually breaking for want of this meal, usually met with among nervous, hard-working men of business, who had heard that suppers are unhealthy, have begun to improve as soon as the process of exhaustion was stopped by a light evening repast. I have therefore for years, in all cases where dinner was necessarily early, recommended a moderate supper, at least enough to stay the stomach, such

as a poached egg or two, fried or baked potatoes, biscuits and cheese with celery or radishes, fish, and so on; and I believe such a meal with two or three glasses of claret never yet did harm.

"After supper walk a mile." A proverb may be very pithy and very witty, but when it is not also a platitude or manifest untruth, it might be looked upon as a figment, generally of dubious nature, permitted by Providence to exist for the express purpose of testing the limits of human credulity, half the old saws being sheer nonsense, and that which stands at the head of this paragraph only one remove off. No doubt in close stifling weather a gentle walk in the garden the last thing at night is a good preparative for bed; possibly some such process cooled down the brain of the man who over-heated it in concocting this proverb. But a moderate degree of observation will show that such a rule is impracticable, especially in winter, not one person in fifty being in a position to do anything of the kind; consequently, if the maxim had any value, forty-nine supper-eaters out of fifty would be on the wrong track. After supper is the time, *if there be a time*, for taking spirits, and so far as my experience is concerned, I believe the habit in reason is rarely injurious.

Patients who are ordered a light diet constantly want to know what is to be comprised under the term. It is not easy, even with the help of a good dietary table, to answer the question at length, and wholly impossible without one; I therefore simply give a formula for one day as a specimen, by the aid of which the patient may, with a little discretion,

safely decide for himself. This much is quite certain; while suffering under skin disease he will always err on the safe side by selecting too light rather than too rich food, and he will rarely if ever require a fuller diet than that of which I have just traced the outline.

A day's light diet then may consist of tea for breakfast with dry toast, very little butter, an egg, or a bloater, or a small piece of ham well broiled. Dinner; mutton broth, boiled sole or chicken, potatoes, any light vegetable such as spinach or peas; light milk pudding, sauterne or chablis. Haricot beans à la maître d'hôtel are excellent, and form a staple dish for the in-patients at the hospital on low diet. Tea; biscuits and butter. Supper; arrow-root and milk or poached egg, with Camembert cheese and oat-cake; claret. Macaroni, stewed in milk and flavoured with cheese, is excellent as a change, being light, tasty, and digestible.

Smokers often ask if they may indulge their favourite taste. Carried only to a reasonable extent, the practice seems to me perfectly harmless, and I have never noticed that those, who do not smoke, throw off disease of the skin any faster than the smokers do; these affections, too, are often quite as obstinate in ladies. What the effect may be when carried to an extreme I am unable to say, having never yet, to my knowledge, encountered affection of the skin in a rabid smoker. I have seen heavy smoking set up sleeplessness, indigestion, loss of appetite, and tenderness with dryness of the tongue.

2. *That no undue strain must be put upon the skin* means, I need scarcely say, abstinence from the various articles of

food and drink condemned in the foregoing pages, as also from the habits signalized for avoidance in those which follow. To recount them here would simply swell the bulk of the work without enforcing its object, and I, therefore, pass at once to the succeeding and last division of this chapter, the hygiene of the skin considered locally.

3. *That the skin must be subjected to proper rules of management.* To keep it then in good order, and particularly if there be a tender, chapped, irritable state of this organ, the patient must use a proper soap and a proper kind of bath. I had not long pursued my investigations at St. John's Hospital before I found that, do what I would, the want of a pure, unirritating soap constantly nullified all my efforts; the soaps which I tried *doing so much mischief* that many patients, of their own accord, substituted thin gruel, oatmeal and water, and so on. The chemists, whom I consulted, recommended sometimes their own favourite soap, sometimes the soft soap of the pharmacopœia. Both turned out failures. The favourite soaps, one and all, proved quite as potent for mischief as the common yellow; the pharmacopœia soap, besides being very expensive, is too soft and requires to be kept in a pot. Foreign soaps I found almost invariably bad. These objections being insuperable, I consulted Messrs. Pears, the well-known soap makers, and they directly agreed to prepare an unscented soap, which should contain the smallest quantity of alkali compatible with due saponification of the fatty matter, and should yet be sold at such a reasonable price as to be within the reach of the hospital patients. Such was the origin of Pears' Hospital (or Unscented) Transparent Soap, which has now

deservedly made its way into so many hospitals, and which I have continued to use for twenty-seven years with unabated confidence.

From time to time I have tried many different soaps, specimens of which have been sent to the hospital. Others I have procured, so that I might pursue my investigations with perfect independence, and I have now, after all these years of careful trial, both in hospital and private practice, no hesitation in giving my verdict to the effect that nothing has proved so beneficial to the skin. Inasmuch as it was, in special forms for hospital practice, originally made at my suggestion (although for nearly a century before the soap was favourably known), such a statement may to the reader sound to some extent very like an encomium on my own work. But this is one of the occasions on which the truth cannot be told in any other manner, and it would be a mistake to let any such feeling stand in the way of stating the exact truth about a fact which I have spent so much time in elucidating. For I may remark that before the appearance of the work by Mr. Pears, and that by Auspitz on soap, both, I believe, first noticed in any english medical journal by myself, nothing was known of the action of this substance on the skin, so that each person had to find out for himself what he wanted to know about the subject. Nor is the aspect of the question much altered since then. One author has indeed mentioned several kinds of soap in terms of praise, but the eulogy is too general, the phraseology too vague, to permit of our thinking that such conclusions rest on the only proper basis, *a strict and discriminating comparison of the action of one soap against another;* and it is a curious

illustration of the lax manner in which the topic has been handled, that among the special objects of praise we find some soaps *entirely innocent of the ingredients which their names imply.* With so little then to guide me, I was naturally driven to rely a good deal on my own observations, and the following paragraphs are accordingly based almost exclusively on these researches.

Most toilet soaps labour under one or more of the following defects. First, they contain too much alkali, not perhaps an object of much importance to persons with hard strong skins, but of great consequence when this organ is sensitive or out of order; and we constantly have cases of relapse at the hospital from the use of alkaline soaps for domestic purposes. Secondly, they contain a quantity of useless or mischievous additions. Thirdly, they are made by the "cold process"—an imperfect chemical mixture obtained without boiling—a drawback common to many of the french and german soaps. Lastly, the fatty matter is sometimes of very inferior description, kitchen refuse and dripping being mixed with it to a great extent. Some years ago a lay officer of one of our largest hospitals informed me, that the refuse dripping of the institution was all bought up by a small soap-boiler. The practice is, perhaps, not so objectionable in the manufacture of common soap, for which, indeed, kitchen refuse is notoriously employed, but as an ingredient of *toilet soap* such inferior stuff can scarcely be too strongly condemned.

Plenty of bulk for the money, strong scent, variety in the way of colour, showy boxes and labels, are the characteristics which usually recommend toilet soaps, and they are

all so many mistakes. *A good soap cannot be very cheap.* Such soaps as I have here referred to are made from the commonest yellow; the bulk is due in part to the admixture of lime, gypsum, &c., to reduce the cost; partly to the contained water, of which some toilet soaps hold as much as sixty per cent., whereas pure soap should not have twenty per cent. When these soaps are purified, as it is called, more alkali with scent and colouring matter is added. Fine scent, and especially pungent scent, is in no way necessarily connected with good soap; on the contrary it is often an excuse for puffing some worthless article, full of coarse alkali. The colour is perhaps the worst of many bad features, being due to the presence of one or more noxious ingredients, among which figure mercury and arsenic. Dark coloured soaps, such as Old Brown Windsor, are constantly made from the residuum of common household soap, known in the trade as "Black Jack." The white ones, which some persons favour so much, are chiefly composed of the disagreeable cocoa-nut oil and a great deal of alkali.

A few years ago Herr Auspitz, of Vienna, wrote a work on soap, principally from a medical point of view, tracing its history from the pre-saponic days of Jeremiah down to the time of Pliny, when soap proper first appears on the stage. He had been anticipated by Dr. Pereira, Mr. Pears, and even still earlier english writers, in a good deal of what relates to the history and making of soap; but he executed his task with his usual great ability, and advocated the cause of medicated soaps. At the request of the editor, this work was reviewed by myself in the Journal of Cutaneous Medicine, and I was reluctantly compelled to say that I

could not approve of the author's recommendation, and that the employment of any drug or medicament in this form is, as regards the skin, a grave error, particularly when this organ is out of order. This opinion I have seen no reason to alter.

Medicated soaps are mischievous or useless; they may be roughly divided into the strong and the soothing. The first contain such substances as carbolic acid, tar, acid nitrate of mercury, tartar emetic, and so on; the latter, materials of a gentler nature like glycerine. As regards the former, although some persons can use them, like alkaline soaps, with impunity, they are totally unsuited to the bulk of the community, and particularly to those who, on account of great natural or acquired delicacy of the skin, are obliged to study the question. For such persons I feel warranted in saying, that *the addition of any strong mineral or drug to soap is always more or less mischievous.*

The introduction of a soap of this nature to public notice is often accompanied by one or more medical certificates of its value. By what means the writers arrive so quickly at a knowledge of the real properties of these products, I am quite at a loss to understand, but as respects my own experience I have entirely failed to meet with the valuable qualities vouched for. Moreover, it is to be remembered that these substances are supposed to act remedially, and are therefore subject to the operation of those laws which control the operation of remedies. Now it may be affirmed, that there is no disease of the skin, and even no merely disturbed condition of it, which can, without the aid of proper internal treatment, be removed by any one substance,

or any combination of the substances employed to medicate soaps—sulphur in itch and some trifling cases of ringworm, perhaps, excepted. Those who have studied this branch of medicine know only too well that, in by far the greater number of the exigencies which they have to cope with, all external means are useless without a prolonged and well regulated course of remedies fitted to act upon the system, and such a course does not require the aid of medicated soaps.

Looking to the short time it is in contact with the skin, the active ingredient of a strong soap must, if it have any effect at all, operate like a caustic, and it is very seldom that caustic is required for any kind of skin disease, unless it be lupus, which was never yet cured by soap. Such an application must necessarily soon be washed off again, whereas experience shows unmistakably that, for external applications in cutaneous diseases, *the great point is to keep them as long as possible in contact with the skin*, and to disturb them no more than can be helped. Besides, the curative power, in the best shape of the ingredients employed to medicate soaps, has been ridiculously over-rated. Carbolic soap, after a long impartial trial, has been entirely disused in my department at the hospital, being a complete failure. Tar, again, of different kinds, has been repeatedly tried in the same shape and at last given up, being found to possess no curative action, the utmost that it ever did being occasionally to remove some slight affection which would have yielded to more cleanly remedies. Sulphur, too, is used to impregnate soap; but there are very few skin diseases for which it is required, and to be of service in these

it must either be employed in the shape of vapour, or be kept perpetually in contact with the skin, conditions for which soap is not adapted.

Nor is this all. These soaps are not always merely useless. I am not influenced by any fears of what might happen from the use of any particular application, but, on the contrary, restrict myself expressly to what has happened, and very frequently. I therefore state, as the result of my own observations, that strong, medicated soaps, containing carbolic acid and tar, *often do a great deal of mischief.* Used when disease of the skin is coming on, they frequently exasperate it to an unexpected degree. Prominent among the affections thus maltreated are eczema, popularly known as scurvy and watery tetter, often, in its nascent stage, doctored by the patient in this way to his cost; and scalled head, a term perhaps properly restricted to a rare, inflamed variety of ringworm, but more generally applied to another form of eczema, for which the mother often flies for relief to tar soap, and sets up very troublesome irritation by doing so. The patrons of these soaps may say that this is the abuse of them, not the use for which they are intended. But it would be interesting to learn how such a check is to be imposed, as will once and for all separate use from abuse, seeing that the mistake is often made at a time when it would require the practised eye of a specialist to detect the coming disorder; and how patients, who see these soaps advertised as curative in so many diseases, are to be guarded against taking any view of their virtues but a general one.

The soothing soaps are not open to such censure, for the simple reason that the material, for the sake of which they

are bought, is inert in some and wanting in others. Tons of toilet soap are sold in which there is not a single drop of the article from which it derives its name, and in virtue of which it is supposed to possess some marvellous soothing quality, not of course to be found in any other product. Among the soaps thus described are mallow, honeysuckle, rose, elder-flower, lettuce, and almond, to which may be added for convenience sake honey and glycerine. It is not, however, intended to convey the impression that it is always so; some soaps, no doubt, contain what they are said to do. The difficulty is to know how the consumer is to secure purity by the means of chemical analysis, as this is rather a costly method for the mass of patients. It would also be desirable to know what part of the honeysuckle and rose, the elder-flower and lettuce, is introduced into soap. Expressed juices and essential oils do not stand boiling over well, and if added after boiling are only likely to convert soap into a filthy mess, quite unsuited to the purposes of cleanliness. If the patient be sceptical on this head, I advise him to take a small piece of the finest soap he can get, to soften this thoroughly with a little boiling water, and then to rub it down in a mortar or on a tile with a little expressed juice of any kind, say that of lettuce; and by the time the experiment is concluded he will be quite satisfied, and charmed too I should say, with the result.

In short, it may be said that medicating soaps means waste of skill, time and material on the part of the manufacturer, and of money and hope on the part of the patient; that soap, instead of being a convenient vehicle for mineral or vegetable products, is the worst ever devised. The more

purely negative soap is, the nearer does it approach to such perfection as its nature allows. It is essentially in this respect that Pears' soap approaches, according to a decision expressed on such high authority as that of the Archives of Dermatology, as near perfection as the nature of the substance admits of. The skill of the manufacturer, when treading in the right path, is taxed to rid it of all extraneous matters, so that it will cleanse the skin without injuriously affecting it. Even the finest german soaps are liable to this defect, owing to excess of alkali the superabundant soda or potash in them acts upon the sebaceous matter of the skin, thus forming a second soap in the act of washing; indeed, the whole frame so lends itself to changes of this nature, that under certain circumstances it is converted into a species of natural soap known as adipocere. Pears' soap, being cleansed from the extraneous barilla by solution and precipitation, is free from this drawback. I have excellent reason to think it is the best because the purest soap that is made, an opinion vouched for by the strictness of chemical analysis. So effectually for medical purposes has the process of purification been carried out, that this soap, when made into a lather, can be applied even to the surface abraded by eczema.

In order to investigate thoroughly the composition of some of the toilet soaps now in use, I procured thirteen specimens, which were submitted to the scrutiny of Dr. Attfield, Professor of Practical Chemistry to the Pharmaceutical Society, with results given in table on next page. The term nitrated ash is employed because nitric acid was used in the process, but such ash is principally carbonate of soda and

ANALYSES OF THIRTEEN SAMPLES OF TOILET SOAP,

By Dr. JOHN ATTFIELD, Professor of Practical Chemistry at the Pharmaceutical Society, London.

(The figures in decimals show parts in 100 parts.)

Number.	Name.		Fatty Matter.	Proportion of Soda to Fat.	Moisture.	Nitrated Ash.	Colouring Matter.	Remarks.
	A fair Standard for Toilet Soap	6·6 to 7·7	60 to 70	1 to 9¼	15 or 20	12 to 13		
1	Honey Soap	6·03	59·5	1 to 10	20·5	20·0	Vegetable.	Moderately good.
2	Rose Soap.....	6·03	67·0	1 to 11	18·0	17·7	Vermilion.	Rather greasy.
3	Elder-flower Soap	6·03	65·5	1 to 11	17·0	21·4	Ultramarine.	Rather greasy.
4	Brown Windsor Soap	6·62	50·1	1 to 7½	22·0	29·0	Ochre, &c.	Impure and alkaline.
5	Lavender Soap.....	6·67	64·7	1 to 9¾	21·0	20·1	Vermilion and Ultramarine.	Fairly good.
6	White Glycerine Soap... ..	7·25	60·5	1 to 8¼	21·5	25·6	Natural.	Somewhat impure and alkaline.
7	English Transparent Soap	7·25	67·4	1 to 9¼	15·0	12·7	Natural.	Very good.
8	Foreign Transparent Soap	6·16	48·7	1 to 8	23·5	14·1	Natural.	Weak and alkaline.
9	French Lettuce Soap	9·4	79·5	1 to 8½	6·3	20·2	Chrome Green.	Somewhat alkaline.
10	English Lettuce Soap	8·8	37·0	1 to 4¼	33·0	22·0	Ditto.	Excessively alkaline.
11	German White Soap	9·8	69·0	1 to 7	—	—	—	Very alkaline.
12	Curd Soap.....	9·4	66·0	1 to 7	—	—	—	Very alkaline.
13	A Factory Soap	8·7	53·0	1 to 6	—	—	—	Unfit for use on the skin.

other mineral matter. The reader will thus have an opportunity of knowing what the composition of some toilet soaps really is.

In explanation of the preceding table a few more words are necessary. Soap is made from soda, oil, and water; and, farther, when these three things are boiled together in the course of the manufacture of the soap, the action of the soda on the oil causes the production of some glycerine. Sometimes the glycerine is allowed to remain in the soap, but pure soap retains little or none. If the soap be carefully made it will have neither too much soda, which would make the skin rough; too much oil, which would impair the cleansing power of the soap; nor too much water, which would reduce its money value. One hundred parts of good toilet soap should not contain more than twenty parts of moisture. If the amount can be reduced to 15 per cent. so much the better, but soap containing much less than 15 per cent. does not lather readily. All soap also holds a little water in such a close condition of combination that it can only be extracted by prolonged steam-heat. Obviously the larger the proportion of moisture in soap the smaller will be the yield, on analysis, of soda and of oil. A model soap should yield, say, 15 per cent. of ordinary moisture, nearly $7\frac{1}{2}$ per cent. of soda, and about $67\frac{1}{2}$ per cent. of oil. If the soap contain rather more than 15 per cent. of moisture it will probably yield rather less than $7\frac{1}{2}$ per cent. of soda and rather less than $67\frac{1}{2}$ per cent. of oil; the important point is that the *proportion* of soda to oil should be nearly $7\frac{1}{2}$ to $67\frac{1}{2}$, or nearly 1 to 9—say 1 to $9\frac{1}{4}$. With regard to the character of the perfume of a scented toilet soap, or the

smell, good or bad, of unscented soap, persons using soap are able to judge for themselves, and will readily distinguish between good soap properly perfumed and soap in which a maker has endeavoured to disguise bad smell by excess of strong aromatic essences. It is also scarcely necessary to say that "Honey" soap does not contain honey and that "Lettuce" soap does not contain any lettuce, but that such names are usually fanciful and without significance.

It will be seen that sample No. 7 was found by Professor Attfield to be by far nearest the standard, and it is only fair to state that this was an ordinary sample of Pears' Transparent Soap taken from the stock in use at the hospital, thus chemically verifying the practical experience of it.

When it is necessary to take great care of the skin, hot water should be used for washing, except in the height of summer, and even then if there be actual disease of the skin, while for this state water as hot as it can be borne is demanded in cold weather. Warm water in the latter case has simply a negative value—that is to say, it obviates the mischief which would be done by cold; to secure a curative effect we must employ heat. Ladies suffering under the eruption on the face known as acne, should use hot water even in summer. It sometimes inflames the spots for the moment, but sooner or later the beneficial effects of the practice are visible. In eczema the use of very hot, almost boiling, water often gives surprising relief.

People with merely slight disease of the skin often give up the cold sponge in the morning with great reluctance, and only imperious necessity could justify the interdiction

of a practice so cleanly and refreshing. But this necessity exists. A man with a skin like an andalusian bull and muscles of india-rubber, who believes neither in sickness nor the remedies for it, and who spends half his life in rambling, cricketing, fishing, and so forth, can very well afford to disregard such restrictions; neglect of them when the skin is in a morbid state often perpetuates the complaint, however carefully it may be attended to in other respects, and the skin will at times get worse under the use of cold water, despite all faith to the contrary, as those with any bad skin disease generally find out for themselves. Some persons maintain that a good scrubbing with soap and water will do no harm even when the skin is tender, rather rouse it to vigorous action, and help to keep the internal organs in good working order; but if they were to extend the process of reasoning to an inflamed eye or throat they might find that there was a flaw in the argument. Friction is a capital thing, the skin can be kept healthy by means of it even without washing; but to bear it properly the skin must have partially recovered.

Ladies who study—and very properly study—their complexions, would find, when the skin is wrong, that a hot bath, and, still more, a vapour, or "modified" turkish bath, will do more to put it in order than all the cold bathing at their command; and now that both the latter can, by means of a small apparatus sold by the instrument makers to St. John's Hospital (Messrs. Walters and Co., of Moorgate Street), be had at a cost so slight as scarcely to be felt by any but the very poor, there is no longer any valid obstacle in the way of their being employed. Whatever objections,

too, existed against the use of the turkish bath in its ordinary form, as so frequently productive of disagreeable results to the general system, have been entirely overcome in the apparatus mentioned; while the excoriation, sometimes complained of, is obviated by using the soap already recommended instead of common soap-suds.

Observation at the hospital has repeatedly shown that this bath is in some forms of disease decidedly more curative than the turkish; but in this instance the lessons of practice had been anticipated by scientific experiment, seeing that, many years ago, M. Edwards had stated as the result of his trials, that a warm atmosphere, saturated with water in a state of vapour, *excites a more active vital transpiration than dry air of the same or even of a higher temperature.*

To deny the value of a system in which forced perspiration plays the chief part, and yet extol the merits of a bath which brings on excessive sweating, looks like a contradiction; but none is really involved. The sweating is merely a coincidence. Though so profuse at first under the influence of the vapour bath, it lessens as the state of the skin improves, perhaps to the no small surprise of the patient; and by the time that the transpiration is brought to its proper level, the sebaceous secretion restored, and the skin again feels soft and smooth, the sweating has been reduced to zero.

Above all things, sea bathing is to be shunned when the skin is tender, and the reader may as well be told at once that, while there is not a single disease of the skin which is benefited by sea bathing or sea-air, those affections, which are exasperated by both, are so numerous that they include

nine-tenths of all those seen at the hospital; where it is quite common to see instances of the worst phase of cutaneous disorders in persons coming from the seaside, and to hear patients stating of their own accord, that they have been worse ever since they went to the coast for a change. Perhaps saline baths are a shade worse than salt water, but they are seldom used except by persons who run after every form of quackery, and upon whom, therefore, all warning is thrown away.

Opinions are continually expressed about baths, which are so entirely unfounded that it is difficult to know how we are to speak to them, except by saying that they are not attested by one authentic fact. Such, for instance, is the statement that the turkish and Priesnitz baths will cure skin diseases, speaking generally; a belief for which there is not a particle of foundation. Sulphur fume baths will often take away itch, and sometimes liver stain, a peculiar variety of ringworm. Occasionally the turkish bath answers in a rare form of skin disease called prurigo. Beyond these there is not a single form of cutaneous affection known to myself which can be cured by any kind of bath; and eczema, which comprises quite one-third of all cases of skin disease, is, in its earlier stages, almost invariably aggravated by every application of the kind, except a proper vapour bath. Equally unfounded is the belief that washing possesses the least curative power over ringworm and many similar complaints, in which it is resorted to as a remedy; all that it can do is to get rid of the crusts and thus facilitate the applying of topical means. Nor is there any better reason for thinking that dirt of itself favours the reception of those diseases;

on the contrary, at least one author has expressed his surprise at ringworm being so much more common among the well-to-do than the poor. He did not take into consideration that children of the former class are often weakened by over-teaching and confinement; while the truant in the streets, dirty, half-starved, and unkempt, still enjoys the advantage of being out all day in the open air, impure though such air may be. At the same time, it should be understood that the prevalent belief about washing opening the pores of the skin to the entry of diseases, is equally untenable. As to the Priesnitz system, I suppose no rational person, even in the inventor's native country, would treat skin disease nowadays by such a method. The cures effected by it were due to some such process of self-deception as has often led honest and clever men to extol, in the highest terms, systems condemned by later experience as worthless. With regard to the electrical and medicated baths, hydropathic systems, and so on, the slight amount of power they occasionally possess has been so entirely buried under a perfect cumulus of exaggerations, that they have fallen into unmerited disrepute. And very naturally. A sensible person, when told that such baths cure such incurable diseases as epilepsy, asthma, and diabetes, properties distinctly claimed for them, would very likely distrust their power over slighter cases.

Lastly, with every account of baths comes the eternal history of the ancient baths, especially those at Rome: their magnificence and completeness, their lavish profusion of scents, their vast numbers, and so on. It would really be a variety if some one would occasionally tell us the truth

about these things, with a little less of the theatrical tinsel. The roman baths were haunts of profligacy and idleness; infinitely less decent, less comfortable, and less adapted to their purpose than the turkish baths in England. Among the scents figure fox-glove, lily, wild thyme, water-mint and marjoram, every one of which, when rubbed on the skin, produces a most disagreeable smell. The experience of later ages has shown that anointing with oil, which formed a part of the system, was in no way necessary to health; common sense tells us that it was a filthy practice, and if Socrates really said—as he is reported to have done—that men should smell of oil, he simply showed that, in addition to being what most sensible persons in Athens considered him to be—a perverse, contradictious old nuisance, wanting people to live on acorns and beech-mast, he was also an old pig. Till subsequent investigations verify them, the accounts about the number of the baths must go for nothing, seeing that there is scarcely an author of antiquity who can be trusted on such points, and most of them contain exaggerations which are only suited to the capacity of our credulous boyhood. What such means can do, and how they may be made to do it, is told more fully in the companion work to this on the bath.

Patients labouring under sluggish action of the skin should take as much exercise as they well can, without however, carrying the practice to the verge of exhaustion, as this simply wears down the strength without doing any good. For such reasons the daily walking pursued by some persons, with a view of keeping up the health, is often a great mistake, and no improvement need be looked for till

it is given up. Among other illustrations I may mention one which was sent to me by a patient on whose accuracy I can quite rely. He was suffering from exhaustion and disease of the skin, and had gone to the seaside, where he used to walk a long way every day to fish. Though he took tonics regularly, his weakness got no better and his skin disease—eczema—grew worse. By mere chance he heard of some fishing much nearer at hand, where there was better sport, and decided to try it. At the end of the first day he noticed that he was less weary. As the fishing quite answered his expectations he gave up his former long walk, and without change in either diet or medicines, and without there being any change in the weather, a point to which he was very attentive, his exhaustion disappeared almost immediately, and then, to his great surprise and gratification, the skin disease began to mend rapidly, and soon passed off entirely. Coupling with this the fact that, during the whole time the eczema was getting bad, the patient had been exposed to great fatigue, there can scarcely be a doubt that the latter factor had a good deal of influence on the course of the complaint.

But short of fatigue, a person afflicted with a skin complaint can scarcely take too much exercise of every kind except walking, a mode of exhausting the physical strength peculiar to civilized man, carried to the greater excess the more he becomes the creature of habit, and usually pursued more pertinaciously by the class least fitted to support it. As an occasional change it is excellent; as a daily habit I have seen ample reason to think it highly injurious in many cases. I have repeatedly known walking, pushed to the

extent of bringing on fainting in ladies, entirely fail to check the progress of the skin disease for which it was ordered. Consequently, I always advise it should be resorted to with circumspection; while as substitutes I would suggest, as far as is practicable, riding, cricket, bicycle riding, boating, dancing, and such like, all, of course, to be followed out in a sensible way. Girls, especially, want a great deal more out-of-door exercise than they usually get, and a young lady would frequently be better employed, would stand a much better chance of keeping her brain and temper, her health and skin in good trim, if she were engaged in this way, than she does when over-taxing her constitution in trying to learn some accomplishment, which is most likely either utterly useless or else calculated to unfit her for both the duties and the pleasures of life. She need not be afraid of damaging her skin by tanning and freckling; the one is a good sign, and freckles never yet spoiled beauty. Very fortunate that it is so, as the affection rarely if ever yields to treatment, and I always advise ladies to let the affair alone, and above all not to waste money in buying expensive washes, which are one and all utterly useless, notwithstanding the assurance with which their miraculous effects are vouched for.

While upon this subject it may be as well to take two others which are closely allied to it. One of these is scurf in the hair, a thing which annoys some ladies very much. Here the same warning is necessary. Not one of the costly advertized washes will do any more good than pure spirit diluted with water, and even that is often useless, the dandriff being the product of an affection of the skin known as

pityriasis, and not unfrequently requiring constitutional treatment. Another is the growth of hairs on the face, for which depilatories, of by no means a harmless nature, are often employed. Ladies had better understand that these things are not only mischievous but useless, the hairs growing again after removal as fast as ever. Scattered large hairs can be removed by piercing each follicle with a glover's needle, and small hairs by means of iridium pointed needles and a galvanic battery, but the process, unless the gas is employed is tedious in the extreme and always rather expensive. Moles should never be touched by the patient with any strong preparation except under the advice of a medical man, severe pain, intractable ulceration and sloughing leading to indelible disfigurement, and cancer having in my own practice ensued from the employment of irritating substances. In one case where a young lady had applied a mischievous quack remedy to five of these growths on her cheeks, the result was that not only the moles but the skin for some distance round inflamed, ulcerated, and in two places sloughed; the skin through great part of its thickness being destroyed, and healing followed by as many large, bleached unsightly cicatrices. Warts are not so serious, but I have seen very troublesome scarring from imprudent attempts to remove them with caustics.

Although opinions are often stated confidently enough as to the differences in health and physical strength between our ancestors and ourselves, usually to the disadvantage of the latter, yet the fact is that much less, in the shape of certainties, has been made out than would warrant a positive assertion. Time has set his leaden seal so effectually on

much of the past, that there is often only a choice between utter ignorance and dim conjecture. We know that our ancestors were, on the whole, not so long-lived as ourselves, and not bigger of frame. An impression prevails that they were much less cleanly, yet by a strange contradiction a physician, eminent in his day, De Valangin, writing in 1768, says that bathing was then carried to an excess. Little, however, as we may know about these three points, we know almost nothing about the state, a century or two ago, of most of those touched upon in the course of this work. Now and then we come across waifs and strays of light, which enable us to cast a transient glance into the darkness of the past, much as a man might look a little into the interior of the earth through a crack which an earthquake has left. From some of these we might almost infer that the men of bygone times possessed more robust skins than we do. Many of my readers have, no doubt, smiled at the scene in "Roderick Random," where the cook so plentifully salts the drummer's leg, and have very likely regarded the incident as simply the offspring of Smollett's brilliant imagination; but De Valangin tells us that the practice was really in vogue among the faculty, and relates the story of a doctor who successfully treated after this fashion his own leg which had been badly scalded by the upsetting of a tea-kettle. Smollett's drummer, too, although at first in the extremity of his torture he grinds a pewter pot flat, still recovers so speedily that he can very soon after enjoy a dram. For us the moral of both stories is, whether modern skins could stand such management.

Again, we find one of the leading physicians of last cen-

tury saying, "As for wearing flannel 'tis as bad as having diabetes." What he would have said to the spectacle common in our day, of a sturdy young fellow wearing a flannel shirt, a thick jersey and a shirt over it in the height of summer, must be left to the reader's imagination, for sober judgment recoils before the task. Most likely he would have thought he had a lunatic to manage, and not without reason. Had we read in "Gulliver's Travels" that the sages of Laputa distinguished themselves in the art of heaping on clothes in summer till they were faint, and making every fresh cold they caught an excuse for going farther in this direction; had Molière told us that the physicians of his day fortified the constitutions of their patients by lighting huge fires and shutting up every window as soon as the first autumn chill showed itself, and systematically improving on the system in proportion as it proved more fatal, we should naturally have thought these great satirists were sacrificing reality to humour; yet they would not have over-coloured modern life. It is a daily spectacle to see, in moderately cool weather, a strong healthy man equipped as if he were going to face the cold of a Baltic winter, with a thick great-coat over a tolerably thick frock, a sealskin waistcoat, flannel shirt, jersey, and underneath all this flannel again. The observer might well be excused for asking where all this kind of thing is to end, and whether all the evils which this system of stifling might be supposed capable of averting, are to be compared with those which it engenders. I purposely say supposed to be capable of averting, for I have seen plenty of reason to believe that all this piling up of clothes upon clothes,

all this litter of jerseys, under-vests, &c., so far from protecting the wearers against bronchitis, consumption, and rheumatism, distinctly makes them more liable to such complaints. As concerns the skin itself, the more efficiently such a method is carried out, the nearer is the structure brought to that state so often seen in the relaxing air of many parts of India and China, where, I have been assured, not one native in ten is quite free from disease of the skin. Perhaps when society succeeds to its inheritance of common sense, we shall revert to the more manly habits of our ancestors. The clean irish linen, pleasant to the touch and sweet to the smell, will, in summer at least, take the place of flannel; and men will look back upon the custom of assimilating the frame to the condition of a hot-house plant as a dangerous delusion, only fit to breed both in them and their offspring a host of fanciful ailments, nervous affections, and skin diseases. For the tender irritable state of the skin accompanying eczema, prickly heat, shingles, &c., I know of nothing comparable to irish linen, the finest silk or muslin being far inferior to it.

A few words as to the patient's chance of getting rid of his disease of the skin. The question will be asked, equally by the idle who have no particular intention of taking any trouble about the matter; by the impatient who expect to be cured in an impossibly short time; the half-hearted who will abandon themselves to despair before remedies have had a chance of doing good, and by those with a purpose, who will give treatment fair play, who know what they want and mean to have it.

Before the surgeon, then, can answer the question, he

must find out whether the patient is in earnest; seeing that this is the first essential of success, and of more consequence than all other qualifications. A patient, resolved to do his best, not to be turned aside for anything or by anything, will, even when most unfavourably circumstanced, make a capital recovery; where another, with better constitution and better chances, is, at the end of months or even years, no nearer the goal than he was at the beginning of treatment; perhaps even farther from it, and all for want of perseverance. In this, as in many events of life, the patient, to a great extent, carries his fate in his own hands.

The better people predominate and by a long way too; therefore most probably the patient will decide to do what is right. In that case the chances of his being cured, or materially relieved, are something more than 99 out of 100, the cases admitting of neither cure nor alleviation being only about 3 to 6 in the 1000. I am speaking however only of Great Britain. In countries scourged by such diseases as leprosy the statistics might be very different. Owing to the large number of skin diseases it would be impossible, in a work like this, to specify all those we can set right or reduce to insignificance, especially as a degree of reservation will occasionally attach to any opinion about some of them. Without any conceivable, much less any visible, cause, an affection, which usually yields in every instance, will, perhaps in a healthy looking subject too, display intense obstinacy. For such reasons I can only run hastily and imperfectly over some of the most important and best known disorders.

These are eczema, always curable, though I have known

it fatal when mismanaged and when there was no itching; same account of lichen, an allied complaint, one variety of it known as prickly heat. Prurigo, closely allied to lichen, might be irreverently spoken of as a bogey, possessing in most cases no independent existence of its own, being indeed neglected or misunderstood eczema, and easily curable; before the establishment of special hospitals it used to be a terrible affair, and had the reputation of causing more suicides than all other diseases of the skin taken together. Pityriasis, both the white and red forms, easy of cure; equally so most cases of erythema, erysipelas not accompanying a wound, and urticaria (nettle rash), though exceptions to such a favourable result do occasionally happen. Lepra, mistakenly called psoriasis, is at least cured in so far that the visible signs of it disappear; in about one case in nine it is difficult to effect even this amount of benefit. Once, however, thoroughly removed, it may remain absent for years or even life, and I have never seen it come back in a severe form when thus dealt with; if such patients have had a bad relapse they must have gone elsewhere, and I know that many, treated years ago, have had no return. Ichthyosis, which closely resembles it, still more remediable. Pustular diseases, impetigo and ecthyma, quite curable. Acne, specially noticed here for its prevalence and disposition to show itself on the face, with its more developed form, rosacea, equally curable, but more slowly; half a year or even a year may slip away before much good has been done, but the disease gets well in time; and lady readers will, I trust, be gratified to learn that the marks left by it can almost always be obliterated. Vesicular diseases, of which shingles

is a well known specimen, always end favourably in the long run, but may, unless energetically met, be complicated by intense prolonged pain; may also endure for years. One form, pemphigus, requires careful management. Lupus generally admits of relief, often of cure. Ringworm, including liver-stain, and itch run a mild course, but may exhibit a most refractory disposition. Stains and sudden falling of hair are very tiresome; sometimes can only be very partially remedied.

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PRINTERS IN ORDINARY TO HER MAJESTY,
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